THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR   David Arnold Carroll
....

TITLE OF THESIS   Children's Attitudes Toward the Playing
....

of Games and Rule Changes
....

DEGREE FOR WHICH THESIS WAS PRESENTED   Master of Arts
....

YEAR THIS DEGREE GRANTED   1979
....

DATED   June 19th 1979

, ALBERTA

FALL, 1979

THE UNIVERSITY OF ALBERTA

CHILDREN'S ATTITUDES TOWARD

THE PLAYING OF GAMES

AND RULE CHANGES

BY

DAVID ARNOLD CARROLL

Ⓒ

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

DEPARTMENT OF PHYSICAL EDUCATION

EDMONTON, ALBERTA

FALL, 1979

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and
recommend to the Faculty of Graduate Studies and Research,
for acceptance, a thesis entitled "Children's Attitudes To-
ward the Playing of Games and Rule Changes" submitted by
David Arnold Carroll in partial fulfillment of the require-
ments for the degree of Master of Arts.

ABSTRACT

The purpose of this study was to conduct an exploratory examination of the attitudes of grade six children toward the playing of games, and toward rule changes that were made by the teacher or the children in these games.

In order to conduct the study several instruments were developed: two Likert-type attitude inventories were constructed, the first dealing with children's attitudes toward the playing of games, and the second with children's attitudes toward the playing of games and rule changes. An open-ended interview schedule was compiled to supplement the attitude inventories.

The sample consisted of 81 children from three grade six classes. Two classes from one school comprised the experimental groups and one class from another school was used as the control group.

Prior to the treatment period the three classes were administered the "attitude toward the playing of games" inventory. For 12 consecutive lessons the control class participated in two traditional games and the experimental classes participated in two modified games where the teacher or the children made rule alterations. After the treatment period concluded the control class was readministered the "attitude toward the playing of games" inventory and the experimental classes received the "attitude toward the playing of games and rule changes" inventory. Interviews were also conducted with

12 children from the experimental classes.

The pretreatment inventory data were subjected to alpha reliability procedures to help determine whether specific inventory statements could be grouped into a physical, social or emotional category. A similar procedure was used for the experimental posttreatment inventory data with an additional fourth category, intellectual statements, included. Only those categories where the alpha coefficient reached .50 were accepted. A two-way analysis of variance was used to measure the Treatment Groups x Sex with repeated measures for the accepted pre and posttreatment categories pertaining to the playing of games. The Newman-Keuls procedure was utilized to compare mean differences between the three groups. The t-test method of analysis was used to examine differences between the mean scores of the experimental children on accepted experimental posttreatment categories. In all cases the level of significance was chosen at 5 percent.

The findings indicated that the physical and social categories could be used to analyze the children's attitudes toward the playing of games. A significant sex difference was found regarding the social category with the girls indicating a more positive attitude toward the social aspects of playing games. Participation in the modified games did not change the attitudes of the experimental children toward the physical or social aspects of playing games. The physical, social and intellectual categories could be used to analyse the experimental children's attitudes toward the changing of game

rules. There was a significant difference between the two experimental classes regarding the social aspects of changing rules.

The majority of the interviewed experimental children indicated that they like playing modified games where rules could be changed, and their attitudes toward games had been favourably altered as a result of playing the modified games.

ACKNOWLEDGEMENTS

I wish to express my great appreciation to the children who participated in this study and to Mr. George Tkachyk, Mr. Walter Mosychuk, and especially to Mr. Will Simpson, all of the Edmonton Public School System, for their help and cooperation during the conducting of this study.

I wish to acknowledge my deep and sincere thanks to Dr. Margaret Ellis, who, as thesis chairman, contributed a great many hours, considerable effort and guidance, throughout the preparation of this thesis. Thanks is also due to the other members of the thesis committee: Dr. A. E. Wall for helping with the statistical analysis, and Dr. R. G. Glassford for helping "pull things together."

A special thanks to my parents for their continued encouragement and concern.

I would like to express my greatest thanks to my wife, Linda, for her love, patience and moral support during the writing of this thesis.

Finally, the writer also acknowledges Mrs. Jennifer Chapman for the typing of the manuscript.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

xiv

CHAPTER I

STATEMENT OF THE PROBLEM

INTRODUCTION

> There are many things we value. Our concern
> is that kids win more than "ball games." We
> feel every kid can win in terms of having a
> funfilled experience, in terms of the individ-
> ual improvements he makes. We want the differ-
> ent roads to victory left open to the child.
> (Orlick and Botterill, 1975, p. 157)

Society generally recognizes that positive games ex-

periences can make a lasting positive contribution to the

quality of life, and there is also a general consensus that

every boy and girl should have the opportunity to partici-

pate and enjoy games activities (Cratty, 1975; Ellis, 1970,

1973; Glassford, 1973). The present boom towards novice

participation in sports tends to make many coaches and edu-

cators believe that all is well. However, if we as educators

are genuinely interested in the long-term development of the

standard of play in games, we must also consider what bene-

fits the various games programs in and out of school have for

children (MacKay and Robbins, 1975).

In any activity, including games, if children feel they

are failing, they will quickly become discouraged. Success

and failure rely heavily upon the standards which are set for

children. Therefore, to promote enjoyment and success, it

appears that the goals or standards related to games activities must be appropriately structured. As Orlick and Botterill stated, "It is particularly important in the beginning when you are establishing sports attitudes and behavior that these goals be paramount" (1975, p. 9). Through appropriately organized games experiences a framework can be developed ensuring that children will pursue physical activity. This framework will also enhance the development of many specific motor skills (Ellis, 1973). Some researchers have speculated that many physical educators believe that their only function is to teach such activities as baseball, soccer, volleyball and gymnastics. However, their role is much more important; they are responsible for exposing each child to the joyful and exciting environment of physical activity. To do this they must be concerned with the total welfare and development of the child (Orlick and Botterill, 1975).

A major reason why so many children drop out of games activities or become disenchanted with physical education is because they are not having any fun. This lack of enjoyment is often the result of a child's level of ability and should never be a prerequisite for participation (Ellis, 1973; Robbins, 1973).

It is important to develop and administer games programs for children with a child's viewpoint in mind to ensure that the situations, expectations and challenges presented are both logical and realistic for them (Peake, 1974). When children are pressured to try to reach unattainable achieve-

ments in games they become increasingly uncertain, their confidence is shaken and they question the overall worth of the experience (Botterill, 1972; Orlick, 1972).

John Holt, in his book, How Children Fail indicated that children are afraid of failing, of disappointing the many anxious adults whose expectations hang over them like a cloud (1970). Conversely, Neill (1969) stated that many parents are extremely afraid of a child's failure and this leads them to deprive children of their right to play and enjoy games.

Many researchers and educators in recent years have expressed the need to modify children's games. Adults often tend to smile benignly when looking at Victorian pictures showing children of that era dressed as miniature adults (Robbins, 1975). However, if we take a closer look at many of our games programs we will probably see that we have not progressed very far from those times. Often our children's games are simply diluted versions of traditional adult games. Several studies have indicated that children's games need to be modified (Craig, 1975; MacKay, 1974; Peake, 1974).

Orlick and Botterill (1975) expressed the importance of making sure when modifications are made to equipment, facilities and rules, that they result in more enjoyment for children. It is also through well planned learning experiences that children become more knowledgeable and skillfull (Ellis, 1970); and hopefully they will gain a more positive attitude toward playing games.

In some elementary schools educational gymnastics and dance have been successfully introduced into the physical education curriculum. It appears that children who learn in the environment of the movement education approach are often encouraged to find a variety of ways to solve movement tasks by themselves (Staniford, 1978). According to Logsdon (1977) this approach provides a setting that can reward the ability of each child at his own level, thereby enhancing his self-esteem, versatility and individual inventiveness.

However, there has been a limited transfer of movement education concepts into most elementary school games programs (Barrett, 1977b). As a result, children have not had the opportunity to experiment with games related movement tasks (Ellis, 1970) or play modified games where changes are permitted to the games internal structure (Craig, 1975). Instead, the programs are rigidly structured around adult games and taught using traditional direct teaching methods (Orlick and Botterill, 1975).

Barrett (1977a) emphasized that successful experiences for children in playing games depend on the development of a program with diversification considered as a major focus. Moreover, children should be given the opportunity to express their attitudes toward the games they play (Craig, 1975). To accomplish these objectives many of the traditional ideas related to the teaching of games in elementary schools will have to be eliminated or drastically changed.

In conclusion, it appears that a major transition is

needed in our elementary school games programs. More emphasis needs to be placed on children's attainment of success, versatility and enjoyment and not on "winning at all costs". Leonard (1977) felt that this transition would help children to gain a better understanding of the true feeling and freedom of movement.

THE PROBLEM

The main problem in this study was to examine the attitudes of grade six children toward the playing of games involving physical skills, and toward rule changes that were made by the teacher or the children in these games.

Sub Problems

1. To investigate whether any changes occurred in the attitudes of grade six children toward the playing of games as a result of playing modified games wherein rule changes were permitted.

2. To investigate whether there were any differences between grade six boys and girls with respect to their attitudes toward the playing of games, as well as toward rule changes that were made to modified game structures.

IMPORTANCE OF THE STUDY

As previously indicated, each year many children drop out of organized games programs. This is particularly true of those programs which have been organized on a community recreational basis (Orlick, 1974). Statistics released by the Canadian Amateur Hockey Association in 1973 indicated

that there were 600,000 players registered with the organ-
ization for that year. Of that number, 53% were under the
age of 12, 35% were between 12 and 15 and only 11% were over
15 years of age. Over a five year period only about 10%
of the players registered were beyond their 15th birthday.
Similar trends have also been reported to exist in other
organized sports such as minor league softball and little
league baseball (Orlick, 1974; Orlick and Botterill, 1975).
Orlick and Botterill expressed their concern over this mat-
ter in the following statement:

> It is absurd that on one hand we feel that
> sports are good for kids and on the other hand
> we set up a system which eliminates poorer per-
> formers, girls, late maturing boys, kids who
> are not aggressive enough.   (1975, p. 16)

If given the opportunity children will often express
concern over the quality and structure of their games (Har-
disty, 1969; Lenel, 1969; Opie and Opie, 1969). The Ministry
of Education in England (1952) stated that children around
the age of ten are very concerned with the playing of games
and the desire of winning or being competitive is secondary.
Furthermore, children show a special interest in acquiring
and applying specific forms of motor skills and are keen on
game variations. If given the opportunity they tend to
develop strategies to elude failures by designing games
whereby everyone is successful, for at least a major portion
of the time (Morris, 1977). Smith (1973) felt that if learn-
ers are expected to experience success more frequently, they
must be allowed more latitude and control over selecting

tasks as they progress.

Allowing children more latitude does not lessen the responsibility of the teacher. The educator's challenge is to guide the children and help determine where each child's enthusiasm should lead (Dept. of Education, Government of Nova Scotia, 1975-76; Humphrey, 1965).

A project titled, New Perspectives for Elementary School Physical Education Programs in Canada, initiated by the Canadian Association for Health, Physical Education and Recreation (C.A.H.P.E.R) provided an opportunity for educators across Canada to identify the necessary criteria for good elementary school physical education programs. Several definitions of good programs were outlined; respondents indicated that children must be given the opportunity for exploration and discovery through selection and practice of skillfull motor tasks. Also, children must be allowed to develop their communicative skills through individual and group activities in cooperative and competitive environments. These cooperative or competitive situations must be suitable to the child's stage of social and motor skill development (C.A.H.-P.E.R, 1976). In a recent statement, Dr. Norman Watts, Director of the C.A.H.P.E.R. Elementary School Project indicated that, "We must develop quality programs for students and the benefit of these programs for students should be illustrated to other teachers and parents" (Wells, 1978, p. 11).

This study will constitute a needed attempt to examine

the attitudes of grade six children toward playing games and
rule changes made in modified games of physical skills. It
is this researcher's contention, in agreement with many of
the sources previously cited, that elementary school chil-
dren should be given the opportunity to state their atti-
tudes and opinions about the rules in the games they play.
To emphasize this matter, Mauldon and Redfern (1969) indi-
cated that more data needs to be gathered about the "ways
children develop an awareness of the need for rules and the
ability to formulate and respect them " (p. 14).

Wear (1951) made the following comments regarding
the study of attitudes in physical education:

> Because of the importance of attitudes, and their
> changes, there should be a much wider use of ob-
> jective evaluation methods. Instruments should
> be constructed for evaluating attitude toward
> certain specific types of activities ... and
> toward individual and team activities.
> Controlled experiments should be made con-
> cerning the effect upon attitudes of various types
> of programs, of various administrative measures and
> methods, and of various methods of instruction.
> (p. 123)

GENERAL STATEMENT OF PURPOSE

The general purpose of this study was to conduct explora-
tory research to grade six children's attitudes toward par-
ticipation in games involving physical skills,and toward rule
alterations made to modified game structures.

Mauldon and Redfern (1969) asserted that the physical,
social and intellectual aspects of playing games and making
rule changes, are important factors which strongly influence

a child's attitudes toward games and rule modifications.

They maintained that these factors:

> Begin to be integrated only at approximately the
> upper junior [elementary] stage at the earliest,
> and it would appear likely that prior to this each
> comes successively within the power of children to
> experience and develop. This gives us a clue to the
> nature of the aims and scope (as well as limitations)
> of games activity at . . . junior levels, and the
> type of provision and organization required to meet
> newly-defined objectives and needs in this area of
> Movement Education. (p. 15)

Furthermore, Layman (1968) insisted that as a component of
attitude formation, emotion is also an important factor.

In order to make a thorough examination of the children's
attitudes, the researcher designed two inventories. The first
inventory was developed to scrutinize the children's attitudes
toward the physical, social and emotional aspects of playing
games. The second inventory was compiled to scrutinize the
children's attitudes toward the physical, social, emotional
and intellectual aspects of altering modified game rules.

The investigation also consisted of an interview with
12 children from the experimental classes. These interviews
probed the attitudes and opinions of the children as an ex-
tension of the inventories.

DELIMITATIONS AND LIMITATIONS

Delimitations

1. The subjects used in this study were delimited to
three classes of grade six children in the Edmonton area.
The children had an age range of 10 to 12 years.

2. There were two basic types of game structures util-
ized for the modified games, a goal game structure and a
court game structure.

3. The treatment period for the study consisted of 12
classes; this included six classes for each modified game
situation.

Limitations

1. In an investigative study of this nature it is not
possible to control all variables which could affect the
results. However, every effort was made to control variables
that the researcher construed to be crucial. These included:
the frequency and duration of the activity sessions; the ex-
pressed attitude of the researcher toward the playing of games
and rule changes in children's modified games; and the pro-
cedure utilized by the researcher in administering the atti-
tude inventories and interviews. Another fundamental con-
cern was that some children's participation in community or
school sports activities could be a major factor influencing
their attitudes. For this reason the children were ques-
tioned about their participation in these activities.

2. The study makes no claim toward the identification
of all the important factors encompassing the attitudes of
grade six children toward playing games and rule changes in
modified games.

3. The children in the experimental group attended one
school in the Edmonton Public School System; therefore, the

results will only be generalizable in a limited way.

4. Individual subjects may not have been able to state their attitudes toward the playing of games or rule changes in the precise manner they might have preferred because the study was restricted to forced choice answers.

5. It is expected that individual interpretation of items may have varied somewhat among subjects and have thus affected the results to some degree.

ASSUMPTIONS

1. It is assumed that grade six children have definite views concerning the playing of games and rule changes in modified games and that these attitudes are measurable.

2. It is assumed that there is a definite difference between the responses "strongly agree" and "agree" and between "strongly disagree" and "disagree".

3. It is assumed that any game children play may affect their attitudes toward playing games and changing the rules of a game; therefore, this investigation used two game structures rather than one.

DEFINITION OF TERMS

For the purpose of this study the following definitions were used.

Attitude: A mental state of readiness, organized through experience exerting an influence upon an individual's responses

toward the playing of games and rules changes (Allport, 1967).
For the purpose of this investigation attitude and opinion
will be viewed as synonymous.

Court Game Structure: A specific type of game wherein one
or more players are involved in projecting or directing an
object into a playing area where it is impossible for
opposing players to return; this action is undertaken for
the purpose of scoring points.

Goal Game Structure: A specific type of game wherein teams
of two or more players use their skills of passing, running
and shooting to move an object toward a goal or a goal-line
for the purpose of scoring points.

Modified Game: A game designed by either adults or children,
where the procedure and rules are selected, adjusted and/or
developed to suit the skill level, age and interests of chil-
dren, and the equipment and space available.

Rule: An established regulation of a game which controls one
or all of the following: (1) the conduct of players, (2)
the procedures utilized and (3) the usage of equipment.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION

The review of the literature has been broadly divided
into five main areas: the first section dealing with charac-
teristics of upper elementary school children related to the
playing of games and games teaching, the second section with
the prominent theories related to children's moral develop-
ment and conception of rules, the third with games for upper
elementary school children, the fourth with attitude theory
and measurement, and the fifth with children's attitudes to-
ward games.

CHARACTERISTICS OF UPPER ELEMENTARY SCHOOL CHILDREN
RELATED TO THE PLAYING OF GAMES AND GAMES TEACHING

It is incumbent upon elementary school teachers to have
an understanding of the growth and development processes as
they relate to children. According to Humphrey (1974) and
Loy, McPherson and Kenyon (1978) all physical education pro-
grams designed for children should emphasize a high level of
physical and psychosocial well-being. Teachers must realize
that all children are affected by heredity and environmental
factors (Lenel, 1969); and although the characteristics of

13

children may be studied in general terms, there is still a great deal of variability among individuals (Kruger and Kruger, 1978).

This portion of the review will attempt to examine the physical and psychosocial characteristics of children between the ages of 9 and 12 years. However, because of the relevance of moral development to this investigation, literature related directly to that aspect of psychosocial development will be discussed in a subsequent section.

Physical Characteristics

In recent years several well known researchers, Bailey (1971, 1973, 1975, 1976), Adams (1973) and Astrand (1976), have advocated the importance of physical activity for children. In 1971, Bailey stated: "We know that the impulse to physical activity in children is strong, and that such activity probably constitutes one of the great needs of life" (p. 1).

Upper elementary children enjoy moving and they possess a large reserve of physical energy. However, even though their endurance had improved since early childhood, these children cannot maintain a high intensity of physical exertion for long periods of time and they need opportunities to relax during games classes (Stanley, 1977).

Children between 9 and 12 years of age usually experience a steady increase in growth until the beginning of puberty (Adams, 1973). Their heart and lung size and capacity is

close to proportionate to their body size (Astrand, 1976).

At approximately the age of 11 or 12 girls begin their adol-

escent growth spurt and most boys usually follow about two

years later (Gesell, Ilg and Ames, 1956). As Sherif and

Rattray (1976) indicated:

> Girls, on the average, exhibit the beginning of
> a growth spurt that ordinarily levels off after
> pubescence. However, this prepubescent growth
> spurt also affects a minority of boys, approxi-
> mately 17 percent of whom are pubescent or post-
> pubescent by age 12. (p. 98)

Reaction time and speed of movement improves as a child

matures (Hodgkins, 1963). Strength increases with maturation

and there is very little difference between boys and girls

when they enter the upper elementary level (Jones, 1949).

However, Asmussen (1973) stated that, "boys tend to be

stronger than girls of the same height at all ages" (p.71).

Astrand (1976), a noted exercise physiologist, asserted that

there are three major factors which increase muscle strength

in aging children: (1) the increased size of the anatomi-

cal dimensions of muscles; (2) the effect of aging itself,

one additional year of age augments a child's strength by

5 to 10% of the average strength for the same height group;

and (3) the developing sexual maturity of the child, the

male sexual hormones being of special significance for this

occurrence.

Children in the 9 to 12 age group are usually very

agile and possess good balance and flexibility (Singer, 1969).

Their hand-eye and foot-eye coordination has generally improved

since early childhood (Humphries and Shephard, 1959). They enjoy playing with small pieces of apparatus, and above all, they like to manoeuvre balls with or without implements (Barrett, 1977a). At this stage of development the child can learn new skills very rapidly and he can readily continue his refinement of body management skills while playing with games equipment (Dept. of Education, Government of Alberta, 1969).

In relation to children's hand-eye coordination Morris (1976a) conducted a study which examined how well elementary children could track, perceive and finally react to balls of various colours. As a result of his research Morris concluded:

> Youngsters' eyes and their visual perceptual
> process seem to undergo a series of developmen-
> tal steps which are not necessarily age related.
> ...Those youngsters who possess less mature
> visual perceptual processes will not catch the
> fly ball, will not stop a grounder coming toward
> them with the possible result of a ball hitting
> the teeth, eyes, or other vital parts and causing
> injury. (1976b, p. 2)

In a study by Smoll and Denotter (1976), the researchers investigated age trends in children's performance of a ball-rolling accuracy task. They noted that there was a consistent increase in performance for children between 9 and 10, followed by a leveling off point for the older ages. Sex differences favoured the males and remained relatively constant over age.

Psychosocial Characteristics

Many researchers and educators have stressed the importance of psychosocial development in children 9 to 12 years old. According to Sherif and Rattray (1976), this aspect of the child's total development has a profound influence on how he perceives and plays games. The socialization process that a child undergoes is a major component of his psychosocial development (Loy and Ingham, 1973). As Clausen (1968) specified:

> Individual development may be viewed generically within a given society or it may be viewed in terms of the experiences and influences that lead to significant differences among persons (both social types and unique personalities). Viewed generically, the process of socialization includes the patternings of social learning transmitted through child care and training, the acquisition... of selfhood, the learning of social roles and moral norms. (p. 4)

Upper elementary children are conditioned by their cultual environments (Anderson, 1971), and in turn the various cultural influences exerting pressure on a child will affect his socialization (Brown, 1965). Several theorists of psychosocial development, particularly Sutton-Smith, have analyzed children's spontaneously organized games and traditional games as prototypes of the influences exerted by culture (Roberts and Sutton-Smith, 1962; Roberts, Sutton-Smith and Kendon, 1963; Sutton-Smith, 1968). Roberts, Sutton-Smith and Kendon (1963) stated that children who are in high achievement oriented societies will predominately play games involving physical skill.

A study done by Webb (1969) gives an excellent illustration of how cultural content is transmitted through play among upper elementary children. Webb noted that the transition from child's play to more highly organized sports involves increasing complexity and rationalization of game activities and increasing "professionalism of attitudes." By "professionalism" Webb meant "the substitution of 'skill' for 'fairness' as the paramount factor in play activity and the increasing importance of victory" (p. 164).

Upper elementary children are very much aware of what adults are doing, and become concerned about the "right" way of performing the physical skills in their games (Mauldon and Redfern, 1969). With regard to children's modeling behavior Stanley (1977) maintained, "The precise interest is determined by adult leagues in each community and by television and newspaper emphasis" (p. 8).

It appears that most of the research pertaining to children's psychosocial development and their participation in games activities revolves around cooperation and competition. Cooperation refers to the structure of an activity as well as the behavior exhibited by children (Sherif and Rattray, 1976). The complexity of the cooperative tasks observed in children's games increases with age, as developing intellectual and social abilities increasingly enable the child to perceive the roles of others and interrelate his actions with theirs (Piaget, 1965; Sutton-Smith, 1976).

Competiton, in turn, consists of activities dir-
ected more or less consistently toward meeting a
standard or achieving a goal in which performance
by a person or by a group is compared and evalu-
ated relative to that of selected other persons
or groups. (Sherif and Rattray, 1976, p. 105).

The initial appearance of consistent cooperative or

competitive behavior in children is ordinarily noted around

the age of 4 or 5 (Cameron and Cameron, 1969), and progres-

sively gets more complex. Piaget (1950, 1962) stated that

this developmental trend reflects changes in intellectual

functioning from an initial sensorimotor stage observed in

infants, to the formal logic that characterizes adult cog-

nition, which according to Piaget is usually achieved by

the end of the child's 12th year. Lenel (1969) and Sut-

ton-Smith (1971) have both confirmed that by the age of 11

or 12 most children are emotionally and socially able to

handle many complex game situations involving competition

and cooperation. Nelson and Kagan (1972) indicated that the

competitive and cooperative behaviors of children are greatly

influenced by their previous cultural experiences.

In concurrence with their more mature competitive and

cooperative behavior, by the time children reach upper elemen-

tary school they are usually well into a cognitive develop-

ment stage which Piaget (1950) called "Concrete Operational".

At this point in their intellectual functioning children are

still unable to deal with a complex series of alternative

hypotheses, especially those which appear as abstractions

(Flavell, 1963). However, they are gradually acquiring the

ability to reverse their thought processes and think of
previous actions (Lerner, 1976).

In their games the children become more adept at choosing
appropriate and alternative movements and they can make
decisions about the merit of different playing positions
(Lenel, 1969). They experience an emergence of interest in
various components of games, such as, appropriate systems of
scoring and boundaries. These considerations must be under-
stood and have general agreement or the component causing the
problem will often be changed or adapted to improve the game
(Mauldon and Redfern, 1969). Lenel (1969) asserted that
this stage broadens the child's ability to develop strategies
in games and with the appropriate stimulation, invent new
ones; it "is the first step toward playing games in an adult
way" (p. 28).

At the approximate age of 12 most children enter a
"Formal Operational" stage (Piaget, 1950). Children in this
stage are attaining the ability to think abstractly, handle
many ideas in turn and construct hypotheses (Flavell, 1963).
In terms of playing games they can develop playing strate-
gies before a game even starts (Lenel, 1969).

The majority of upper elementary children are very con-
cerned about how they are perceived by their peers. The
stability of a child's social status with his peers is dir-
ectly related to age, and it will increase as the child gets
older (Helanko, 1963, 1969; Sherif and Sherif, 1964). Bos-
sard and Boll (1966) stipulated that there are two types of .

peer groups in later childhood, "the clique" and "the gang".

A clique may be defined as a small intimate group of similar

social status who are in agreement regarding the ostracism

of others from the group. A gang is a more formal group,

less exclusive, more permanent in nature, and usually has an

identifying subculture. As Bossard and Boll indicated, "The

bond of solidarity is often strong, but membership is less

exclusive and more capable of being earned than in the clique.

Its objectives tend more in the direction of activity"

(1966, p. 404).

Piaget (1965) regarded peer groups as the major agent

in a child's psychosocial development toward self-regulation

of behavior. This influence is so strong it will determine

the games in which a child will participate (Anderson, 1971).

Loy, McPherson and Kenyon (1978) have concluded the follow-

ing:

> The research evidence overwhelmingly supports
> the importance of peer group support for involve-
> ment and success in sport. In most instances the
> degree of support or influence increases with age
> or until the individual ceases to be involved.
> In fact, the lack of a sport-oriented peer group
> often leads individuals to reduce their involve-
> ment in sport, especially at the participation
> level. (p. 237)

In terms of sex differences in upper elementary children's

psychosocial development, Smoll and Denotter (1976) indicated

that societal norms, expectations and a child's previous ex-

perience play a predominant role in the differentiation of

performance levels between the sexes. Research has shown

that boys receive more pressure early in life to behave "as

little men" and renounce female play or actions (Hartley and Hardesty, 1964; Maccoby, 1966). According to a study done by Cratty (1967), there is less social stigma attached to the display of masculine behavior by girls than to the display of feminine behavior by boys.

PROMINENT THEORIES RELATED TO CHILDREN'S MORAL DEVELOPMENT AND CONCEPTION OF RULES

Physical educators have often voiced their concern over the "character development" aspect of games. Loy and Ingham (1973) claimed that if games teachers want to avoid difficulty in assessing the moral value of children's games, they must place more emphasis on research related to moral development. Lenel (1969) and Mauldon and Redfern (1969) indicated that it is particularly important for teachers to have a workable knowledge of children's conceptions of game rules.

As a result of research conducted in the 1930's, Piaget (1965), stated that the rules of many children's games constitute a social reality which is transmitted from one generation to the next. When children play games among themselves, their understanding and attitudes toward rules is affected by their level of cognitive development and adult intervention in past experiences.

> Before playing with his equals, the child is in-
> fluenced by his parents. He is subjected from
> his cradle to a multiplicity of regulations, and
> even before language he becomes conscious of cer-
> tain obligations. These circumstances even exer-
> cise... an undeniable influence upon the way in
> which the rules of games are elaborated.... We are
> therefore in the presence... of realities which, if

> not amongst the most elementary, should be classi-
> fied amongst the most spontaneous and most instruc-
> tive. (Piaget, 1965, p. 14)

Piaget found that children between the ages of 2 and 7 do not consider game rules to be binding (Lenel, 1969). At first, rules are seen as external entities (Maccoby, 1968); as the child progresses he begins to use examples of rules in an individualistic fashion and Piaget (1965) considered this an egocentric stage. The child imitates rules but does not understand their purpose, consequently, he changes them to conform to his interpretation of a game (Lefrancois, 1977).

Then comes a period where the child accepts the obli- gation to conform to the rules although he does not feel he had any part in their creation (Maccoby, 1968). Piaget (1965) stated that the child will verbalize the highest regard for the rules of a game. They are considered sacred and untouch- able, made by adults or older children. However, the child is not always able to abide by the rules. He does not have the cognitive ability or motor skills to put rules into workable strategies, and he often becomes preoccupied with other aspects of a game. According to Piaget the child is now entering a cooperative stage, which will last until he is approximately 11 years old. The child's utilization of rules has become more thoughtful and less mechanical than it was in the previous period; he begins to view rules as not being absolute (Kay, 1970).

Most children around the age of 11 or 12 begin to con-

ceptualize a rule as a stipulation subject to the mutual con-
sent of their social group (Lenel, 1969). Piaget marked this
phase in moral development as a "morality of reciprocity"
Maccoby, 1968, p. 232). The child realizes that rules exist
to make games possible and they can be altered (Lefrancois,
1977). Morality is considered to be fully internalized be-
cause the individual feels that he has some control over
rules; they are supported by his agreement and not imposed
by external authority (Maccoby, 1968).

Bobroff (1960) conducted a study similar to Piaget's
(1965) on boys participating in a game of marbles. Data were
gathered illustrating the boys' practice and consciousness of
rules. The researcher asked his subjects several questions
regarding such things as: the use of boundaries and penal-
ties, succession of turns, and the consistency between ver-
balized rules and observed behavior. Bobroff concluded that
his research generally supported the theory of moral develop-
ment proposed by Piaget.

Gesell, Ilg and Ames (1956) strongly agreed with Piaget's
stages of moral development, they considered each step in
development only possible because of the preceding stage.
The value of their evidence lies in the fact that the data
they gathered were based on longitudinal studies of children
(Kay, 1970). Several other researchers, Johnson (1962),
Lerner (1937) and MacRae (1954), have also expressed their
support of Piaget's developmental theory.

One early critic of Piaget's theory, Isaacs (1933), asserted that as a child's emotions and experience within his environment increases, his moral judgements toward rules change without any noticeable stage differentiation. According to Fleming (1966) Piaget did not rely heavily enough on long-term studies which indicate that moral development is very gradual, and is often subjected to disharmony and individual variability.

Kohlberg (1963, 1964, 1966, 1976) insisted that there are aspects inherent in a child's general cognitive growth, which provide a framework for the moral judgements they elicit at different ages. He maintained that in terms of moral development children progress through an invarient sequence of stages, independent of cultural variations.

The following is an outline of Kohlberg's levels of moral development:

Level 1. Pre-moral level:
    1. Punishment and obedience orientation...
    2. Naive instrumental hedonism ...
Level 2. Morality of conventional rule-conformity:
    3. Good-boy morality of maintaining good relations...
    4. Authority-maintaining morality...
Level 3. Morality of self-accepted moral principles:
    5. Morality of contract and democratically-accepted
       law...
    6. Morality of individual principles of conscience.
(Maccoby, 1968, p. 236)

Kohlberg disagreed with Piaget's illustration of the morality of children with regard to their respect for rules (Maccoby, 1968). He agreed that young children are governed by rules in the sense that they try to evaluate what adults consider right or wrong (Kohlberg, 1966). However, he felt

that young children conform to rules because they desire
gratification, instead of Piaget's belief, that rules have
an absolute power of their own (Kohlberg, 1964).

Turiel (1969), a research associate of Kohlberg's, noted
that when children are exposed to reasoning and strategies
one stage higher than their own, an imbalance occurs. The
child comprehends a contradiction between his own level of
reasoning and the higher one; consequently, the conflict
produced by this realization creates a state of disequilib-
rium. In order to restore a sense of balance the child must
accommodate to the higher stage.

Kohlberg (1964) maintained that it is only through some
real experience with dissonance; for example, when there is
an opinion difference about which rules should apply in a
game, that children realize how certain general moral princi-
ples must be formulated. This realization helps them to de-
cide what course of action should be taken.

Kohlberg (1964, 1966) did not claim that his stages
account for all the variation often observed in moral judge-
ments. He contended that there are a variety of individual
environmental factors which affect a child's moral judgements
and comprehension of rules, without invalidating the "stage"
theory (Maccoby, 1968).

One of the most important environmental factors is an
individual's peer-group (Devereux, 1976; Papalia and Olds,
1975).

Children with extensive peer-group participation

> advance considerably more quickly through the
> Kohlberg stages of moral judgement than children
> who are isolated from such participation. . . .
> these same determinants lead to more moral behavior
> as well. (Kohlberg, 1966, p. 17)

Another important factor in a child's moral development is

his socioeconomic status (Kohlberg, 1964). Lower class

children progress through the stages of moral development

at a slower rate than middle class children (Kohlberg, 1964,

1966; Maccoby, 1968). Kohlberg (1966) insisted that this

is because lower class children have "lesser understanding of

the broader social order and lesser sense of participation

in it" (p. 16). In general terms, an upper elementary

school child must begin to take the roles of others toward

himself and he must conform to group sanctions (Kohlberg,

1966, 1968). A problem arises when the lower class child

cannot comprehend the values of the higher status social in-

stitutions, and his rate of internalization of moral values

and rules decelerates (Kohlberg, 1966).

Mead (1934) noted that when children are playing a game,

each individual child must acquire some understanding of the

roles played by others.

> He must know what everyone else is going to do
> in order to carry out his own play.... They do
> not all have to be present in consciousness at the
> same time, but at some moment he has to have three
> or four individuals present in his own attitude....
> In a game then, there is a set of responses of such
> others so organized that the attitudes of one calls
> out the appropriate attitudes of the other. (p. 151)

The rules which constitute a game help determine how the

child will perceive the roles of his peers (Mead, 1934).

Older children have a great interest in rules, and they often make up rules on the spot in order to overcome difficulties (Mauldon and Redfern, 1969; Mead, 1934).

Both Piaget's and Kohlberg's cognitive theories of moral development bear opposition to the moral developmental views proposed by many psychoanalytical and learning oriented theorists (Lerner, 1976; Turiel, 1969). According to Freudian theory internalization of moral judgements and rules, is believed to occur very early in a child's life and it involves the child taking over parental restraints in fairly rigid terms (Kay, 1970; Maccoby, 1968). These moral values internalized from an individual's parents, persist relatively unchanged throughout life (Liebert, Poulos, and Marmon, 1977; Maccoby, 1968).

Lerner (1976) indicated that learning theorists believe moral development occurs by the amassing of a succession of learned stimulus-responses.

> If one wishes to understand the acquisition of
> morality, one must study the processes which under-
> lie the acquisition of any behavior, that is ...
> the process of learning. (Maccoby, 1968, p. 241)

The learning theorist makes the basic assumption of habit generalization (Kohlberg, 1963); this implies that a child acquires moral behavior through the direct reinforcement of appropriate behavior, by parents and other social agencies (Turiel, 1969).

Bandura and Walters (1963) have experimentally demonstrated that moral behavior can be acquired through the obser-

vation of models without any direct reinforcement occurring
to the observer. The researchers insisted that the modeling
process, in affiliation with the influence of direct rein-
forcement, may extend the possible range of behavior modifi-
cation sources. However, they still maintained that parents
play a crucial role in the young child's learning of responses.

The Freudian and learning theorists represent different
views about the nature of moral development and rule internal-
ization. However, Lerner (1976) concluded, they both agree
with the notion that an individual is morally mature when
his behavior conforms to the rules of society.

This section dealt with several theories pertaining to
children's moral development. Some theorists, particularly
Piaget and Kohlberg, noted that a child's level of moral
development plays an important part in determining his games
playing behavior and conception of rules.

GAMES FOR UPPER ELEMENTARY SCHOOL CHILDREN

In 1959, Roberts, Arth and Bush defined a "game" as a
recreational activity characterized by organized play involv-
ing physical skills, and consisting of two or more competing
units within a framework of agreed upon rules, for the purpose
of declaring a winner.

Since that time there has been a dramatic increase in the
amount of literature produced pertaining to games for upper
elementary children. Basically, this literature can be sub-
divided into two broad areas of concern: the first dealing

with the dysfunctional aspects of games for upper elementary children, and the second with the content and structure of games and games teaching for upper elementary children.

Dysfunctional Aspects of Upper Elementary Children's Games

One of the most significant problems observed in children's games has been the increasing tendency for adults to enter and dominate children's organized game programs (Botterill, 1972; McPherson, Guppy and McKay, 1976; Orlick and Botterill, 1975). This adult domination is caused by parents, teachers and coaches who wish to interact with highly skilled individuals and experience success which is unavailable in their own lives (Sherif and Rattray, 1976); by adults who confer emotion in the young athlete and expect to receive gratification in return (Bend, 1971; Cratty, 1975); or, by parents and coaches who establish within young children early career aspirations for the world of professional sports (Robbins, 1975; Usher and Robbins, 1975a).

Bend (1971) declared that when adult expectations are imposed, the levels of aspiration, athletic standards, and the heightened competitive urge are externally-induced and this often results in unrealistic expectations on the part of the child. Sherif and Rattray (1976) indicated their concern over this matter in the following statement:

> Until the child is able to erect abstract standards and goals for his own performance, he or she is not able to compete consistently nor to cooperate in team play directed consistently toward attaining some standards. This capacity to erect and strive for one's own aspirations for an abstract

level of performance, often in the absence of tangible concrete rewards, develops slowly...and varies from child to child. Too often, adult workers with children... fail to recognize these facts, hence present games and tasks... that they [the children] may be able to <u>perform</u> but that require conceptual abilities in goal setting and self-regulation too advanced for their age. (p. 110-111)

In a study conducted by Orlick (1972), data were collected on 32 boys between the ages of 8 and 9. Of these boys, 16 were participants in organized sports programs and 16 were nonparticipants. The researcher discovered that many of the nonparticipants had never tried out for any sports teams because they believed they were not skilled enough. Among those who had previously dropped out of sports, the most common reason given was that their coaches never gave them an opportunity to play. Orlick concluded that participation in sports appears to be largely dependent upon environmental factors which directly affect both the expectations the child has regarding participation, and the reinforcement contingencies he experiences.

A more recent study by Guppy (1974), found that by grade seven 3% of the boys and 4% of the girls who had participated in sports at one time, had completely dropped out of the organized games environment. Thirty-nine percent of the boys and 30% of the girls surveyed, had stopped playing interschool sports; 75% of the boys and 50% of the girls continued their involvement in sports offered by community leagues,, and only 10% of the interschool drop-outs continued to play intramural sports. Guppy indicated that this phenomenon re-

flected a shift of involvement from one level of organized sports to another, rather than a total withdrawal.

After analyzing the Canadian minor hockey environment and observing several distressing negative factors, such as the emphasis placed on aggression and winning; Botterill (1972), formulated the following conclusion:

> When games become more important than the people who play them it becomes apparent that the resulting environment of hate, suspicion, mistrust, etc. will produce a multitude of problems. In minor hockey these problems tend to be of the type that produce highly negative experiences for youngsters. Undesirable environmental factors are resulting in many boys being deprived of meeting needs in wholesome sport and play activities that can make important contributions to their physical growth and mental and emotional maturity. (p. 82-83)

These negative environmental factors are not only apparent in minor hockey. Devereux (1976) suggested that in general terms, highly organized little league sports programs may be destroying the spontaneous culture and motivation toward free play and games, which in previous years was a characteristic artifact of our society. Loy (1973) and Orlick and Botterill (1975) advocated the necessity of a shift occurring in children's games, from a success oriented to a satisfaction oriented activity.

With regard to the games programs operating in our elementary schools, Sande (1972) commented on the priority existing toward competition. He stated that evidence is strongly in support of fun games activities rather than the high arousal competitive environment that is too often the case. Many physical educators have mistakenly stressed competitive games,

and this stress may have contributed significantly to the
"failure identity" existing among many children (Padfield,
1973a). This feeling of being a failure not only becomes
quickly apparent to the child having trouble performing vari-
ous motor skills in a game, but also to his peers (Cratty,
1975; Gump and Sutton-Smith, 1971). The 'failures' are usu-
ally picked last by their peers when teams are selected.
Thus the students never have the opportunity to develop
(Padfield, 1973a).

A study by Phomin (1976) indicated that children's abil-
ity to perform motor skills while in the presence of their
peers significantly affects their athletic self-concept.
Those low in skill performance will display a significant down-
ward shift in their self-concepts and those high in skill per-
formance will exhibit an upward shift.

The organization of upper elementary school games taught
by many physical educators are often categorized by large teams
(Ellis, 1973). In games such as 11-a-side soccer the better
players often monopolize the play and the less skilled play-
ers have very little opportunity to handle the ball and im-
prove their skills (MacKay and Robbins, 1975). Far too often,
motor skills required to play games are introduced to upper
elementary children on adult playing areas, using adult
equipment (Usher and Robbins, 1975b). According to Glassford
(1973), research regarding the analysis of children's motor
skill learning distinctly demonstrates that children cannot
achieve quality movement, until their actions cease to be so

strictly controlled by their surroundings.

Skinnerian psychologists have clearly demonstrated that individuals are more likely to repeat activities that provide positive reinforcement, as opposed to those that provide negative reinforcement (Skinner, 1968). Craig (1975) stated that "there exists a relationship between the quality of an individual's initial exposures to physical activity and his decision to continue to participate in physical activity in adulthood" (p. 86).

After carefully examining the literature pertaining to the effect of competition on upper elementary children; there appears to be little valid information regarding the possibility of detrimental physiological responses in children who participate in games programs. One report by James, Frogatt and Marshall (1968), indicated that although there have been cases of cardiac arrest and sudden death occurring in young athletes, autopsies have usually revealed a history of cardiac problems in the child's family. Similarly there has been very little data collected on the frequency and severity of athletic injuries to elementary children. However, Rarick (1973) mentioned a study conducted by Hale in 1967 on little league baseball players. The results of the study indicated that only 2% of a sample of five million players sustained injuries severe enough to necessitate medical attention.

The Content and Structure of Games and Games Teaching for Upper Elementary Children

Games are activities with a wide range of complexity and great diversification in the number of required skills. The skills and strategies involved vary from simple avoidance behaviors utilizing quick alterations in directions, to highly manipulative techniques employed in complicated tactical situations (Dept. of Education and Science, England, 1972; Kruger and Kruger, 1977). Games range from those requiring complex social interactions to others requiring only individual play (Mauldon and Redfern, 1969). Team games usually allow two contrasting experiences; the opposition of one team against another resulting in competition, and the cooperative interaction of teammates for the purpose of scoring points against their opposition (Stanley, 1977).

Games units for upper elementary children should have well established objectives. The importance of providing suitable games which provide for plenty of activity and enjoyment must never be de-emphasized (Curriculum Services Branch, Etobicoke, Toronto, 1973). Similarly, children's games must promote the development of motor skills, "Good management of the body and the skill to control equipment are basic requirements for success as a player" (Stanley 1977, p. 101). Coupled with a child's development of efficient motor patterns he must also learn to relate his actions to other players, the general playing environment and the rules of a game (Barrett, 1977a; Stanley, 1977). The child

must learn to identify the various elements of cooperation and competition that exists in a game, and game rules must be adapted to the physical and cognitive abilities of the child (Ontario Dept. of Education, Government of Ontario, 1967). Games should exemplify culturally approved modes of behavior without stifling a child's freedom, initiative and originality (Dept. of Education, Government of Newfoundland and Labrador, 1975; Dept. of Education, Government of Nova Scotia, 1975-76).

When considering the structure and content inherent in teaching games, educators must also reflect on the advantages of including boys and girls together in activities. When this is done upper elementary children often demonstrate a greater variety of movement and an increased standard of work (Dept. of Education, Government of Nova Scotia, 1975-76). According to Stanley (1977) "They tend to cooperate with each other rather than compete" (p. 7), however, they talk and argue a lot and an arbitrator is sometimes necessary to guide their thinking when conflicts arise.

In recent years there has been a considerable amount of controversy over the use of traditional adult games in upper elementary school programs. Barrett (1977b) asserted that she is particularly perturbed over the idea that games are made up of specific skills and traditional structures. She maintained that such preoccupation with the technicalities involved in skills and games structures are inappropriate for children. However, according to Mauldon and Redfern

(1969) and Stanley (1977), children between the ages of 9 and 12 are likely to show an interest in traditional games; and they often like to participate in competitive situations using the skills associated with those games.

Kruger and Kruger (1977) did not argue over the suitability of adult games for upper elementary children. They denoted that there is merit in adult games, providing teachers are flexible and use their power of observation to modify activities. Most important of all, they illustrated that if teachers would listen to children and help them readjust games that are not functional, they would be helping their students to apply thinking behavior to the games programs (Hardisty, 1972; Kruger and Kruger, 1977).

> Doing what the coach says may fulfill some requirements that the coach perceives as important. It does not, however, lead to the growth of independent, responsible behavior on the part of the participant. This does not say that teachers should give no directions or structure no games or gamelike activities at all. But the command style of teaching should be recognized as one that leaves few decisions to the learner. (Kruger and Kruger, 1977, p. 361)

Many physical educators have become increasingly concerned over the "process" of teaching games to children. The indirect or problem-solving approach respects the right of the learner to choose his own alternatives for behaving, while the command or direct approach decrees the choices and the behavior (McKinney, 1977). McKinney (1977) emphatically noted that:

> Support for emphasizing 'process' in learning is verbalized by teachers committed to 'education' of

the learner, while 'product' is supported by tea-
chers who 'train' the learner. (p. 18)

The value of discovery learning is further illustrated

by Ellis (1970) in the following statement:

> It is current educational philosophy to help each
> individual reach his potential in a way that is
> satisfactory to him, and recent theories suggest
> that pupils must learn principles for themselves.
> The teacher should allow children to discover for
> themselves the concepts related to games playing.
> By using the discovery or problem solving process
> the pupils are helped to develop their conceptual
> thinking, and when the principles are applied in
> many varied situations they can become the basis
> for understanding abstract concepts. (p. 4)

To assist children in the learning process, teachers

may make decisions about any component of a game, and at the

same time advise the students of their own options (Curriculum

Services Branch, Etobicoke, Toronto, 1973). Through this pro-

cedure most children will learn a great deal from the creative

management of their ideas, equipment, space and people (Kruger

and Kruger, 1977; Morris, 1976b). If the children are un-

accustomed to thinking for themselves, their original tasks

should be simple (Hardisty, 1972), followed by a gradual in-

crease in complexity (Graham, 1977; Kruger and Kruger, 1977).

Robertson (1977) called this procedure "teaching for game

readiness" (p. 25).

The American Association for Health, Physical Education

and Recreation (A.A.H.P.E.R) submitted a report in 1968 con-

cerning revisions needed in children's games. One of their

most important recommendations was that the rules of adult

games be modified to better accommodate the total welfare of

children.

MacKay (1974) modified the game of soccer by reducing
the size of the field and limiting the number of players to
eight aside. As a result of these rule changes he observed
that his 8 and 9 year old subjects had the opportunity to
touch the ball more often, and individually control the ball
for longer periods of time.

Craig (1975) developed two modified games resembling
indoor soccer and basketball. After his experimental group
of children participated in the games, he reported a marked
increase in their self-concept toward playing games, they
perceived more of their peers to have increased their ability
to play games, and the group demonstrated more enjoyment to-
ward the games activity. In reference to his results Craig
made the following conclusion:

> This study supports the beliefs of many physi-
> cal educators who maintain that, instead of util-
> izing accepted game structures en bloc in the ele-
> mentary school setting, modifications should be
> introduced to these structures in an attempt to
> make physical activity and games more enjoyable
> and meaningful for the young child and not merely
> the better-skilled ones. (p. 86)

Both Morris (1976b) and Orlick (1978) succinctly indi-
cated that teachers should outline the kinds of behavior that
they feel are desirable for children, and then design the
structure and the rules of their games to advance the occur-
rence of these desirable behaviors.

Many upper elementary children have the necessary experi-
ence to invent their own games (Mauldon and Redfern, 1969;
Werner, 1977), and this is particularly true if they have

shared with their teacher the enjoyment of modifying existing games (Hardisty, 1972; Riley, 1977). Morris (1977) believed that "the best games are the games that the children themselves have designed" (p. 27).

When developing their own games children should be encouraged to make rules as the need arises (Dept. of Education and Science, England, 1972). Through the decision-making procedure answers can be found to problem situations, and the children can play their games according to mutual consent (Mauldon and Redfern, 1969).

A study by Peake (1974) illustrated that grade six children are keen on inventing games. The researcher stated that children have a strong desire to be involved in developing new games by themselves, "Success to them,... is being able to master the game in terms of skills, rules and team play" (p. 45).

Riley (1977) expressed a profound viewpoint about children's original games:

> If we are to prepare children to cope adequately
> with the demands of all forms of games it seems
> imperative that in elementary school physical
> education we create alternative approaches to
> skill development and games playing that are
> consistent with the characteristics of children,
> ... satisfying current educational concerns re-
> lated to attitudes toward self and others, and
> for challenging children cognitively in their own
> learning. I believe original games have the po-
> tential for doing this without sacrificing the
> preparation of the children for later successful
> participation in traditional games.... Of equal
> significance in the original game experience are
> the insights the teacher acquires about children
> in the process of learning to play games. (p. 30)

Orlick (1977, 1978) has done a considerable amount of research on cooperative games for elementary school children. He has developed over 50 cooperative games within four major categories; these categories include: (1) cooperative games with no losers, involving games designed to keep children playing and not be eliminated (example: Cooperative Musical Chairs). (2) Collective score games, involving "two or more teams working toward a common end" (1977, p. 34); one team cannot achieve success by competing against another, instead, they must all work together (example: Collective Score Blanketball). (3) Reversal games, utilizing the traditional concept of teams winning and losing, however, players become members of both teams (example: Rotational Volleyball). (4) Semi-cooperative games, which closely resemble traditional structures with the exception of having specific strategies employed to bring everyone into the action (example: All Touch).

In his recently published book Orlick (1978) indicated that the primary objective of cooperative games is:

> To provide opportunities for cooperative
> learning and funfilled cooperative interaction.
> ... merely bringing competitively socialized
> people together in small groups is not suffic-
> ient to enhance cooperation or liking. The people
> must be linked together in some interdependant
> way; the structure of the activity sets the con-
> ditions for interdependence. (p. 159)

Jensen (1979) agrees with Orlick on the importance of cooperative games. He indicated that cooperative games pro-vide models for appropriate social behavior and these models

are "to some degree accommodated by children" (p. 209).

In retrospection, it appears that the majority of re-searchers and educators concerned with the teaching of games to upper elementary school children, stress the value of allowing children to play a more active role in the develop-ment of their games. Games units should provide the children with plenty of opportunities for vigorous and enjoyable learning experiences. Above all, conducive learning situ-ations need to be created, "wherein the children may be guided to discover principles for themselves through problem solving and inventing situations to test their abilities and knowledge" (Ellis, 1970, p. 5).

ATTITUDE THEORY AND MEASUREMENT

The term "attitude" has been used in psychological lit-erature for over a century. Allport (1967) reported that Herbert Spencer utilized the term in a psychological context in his book, <u>First Principles</u>, published in 1862. In the latter part of the nineteenth century German experimental psychologists used the term to describe a variety of motor sets which influenced thought and action. More explicitly "N. Lange one of the psychologists developed a motor theory wherein the process of perception was considered to be in part a consequence of muscular preparation or 'set'" (Allport, 1967, p. 4).

In 1918, Thomas and Znaniechi instituted the concept of attitude as a central feature in sociological investigations.

They considered social psychology to be the scientific study of attitudes.

Many researchers have attempted to define attitude; Koller and Ritchie (1978) stated that attitude is "the tendency to act toward an object (human or non-human, material or nonmaterial) or class of objects in a particular way" (p. 299). Allport (1967) provided a much more detailed explanation, he described attitude as, "A mental and neural state of readiness, organized through experience exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 8).

A very popular conception of attitude was formulated by Katz and Stotland (1959); and Krech, Crutchfield and Ballachey (1962). According to their views an attitude consists of cognitive, emotional, and action tendency components. The cognitive component consists of the beliefs, ideas, or factual knowledge one has about some object, experience or person. The emotional component is often referred to as the affective aspect (Martens, 1975), and it relates to the feelings an individual attaches to an attitude object. When a person can verbalize such things as hate or love for an object, much more is involved than mere feelings, they are also cognitions (Katz and Stotland, 1959). These cognitions are significantly different from those of the cognitive component. "Cognitions of feelings and emotions refer not to the object but to the one who cognizes, the individual who is responding to the

object" (Summers, 1970, p. 3).

The action tendency component incorporates the readiness of an individual to respond to the object, and there is a notion that beliefs and the direction of the action tendency will tend to show consistency (Katz and Stotland, 1959). A direct link has also been reported between the emotional and action tendency aspect. This connection is presumably mediated by the physiological relationship of an individual's emotional state to his readiness to respond (Summers, 1970). Funkenstein (1957) found that subjects who react to stress with observable aggressive behavior, also have an above normal quantity of norepinephrine in their blood. Norepinephrine is an enzyme which has been directly traced to such emotions as fear and anger (Summers, 1970).

According to Schellenberg (1970) many social psychologists consider attitude formation and change to be a reflection of the basic laws of learning. As a result of their research, Staats, Staats, and Heard (1960) concluded that formation and change in attitudes involve the acquisition of learned responses, especially when individuals are administered continuous reinforcement as opposed to partial reinforcement.

> Attitudes belong to the domain of human motivation
> the initial appearance of which depends upon
> learning....
>   They are formed or learned in relation to identi-
> fiable referents, whether these factors are persons,
> objects, groups, values, institutions, social issues,
> or ideologies.   (Sherif and Sherif, 1969, p. 343)

Osgood and Tannenbaum (1955) formulated a congruity theory of attitude change. The theory was developed as an

extension of a study which measured the degree of communica-
tion in various messages. The researchers focused their
attention on the source of a message, and the concept con-
veyed by the source. Congruity is obtained when a person
makes an appropriate evaluation of both the source and the
concept, and the method used to convey the concept. Condi-
tions of congruity will not produce a change in attitude; it
is a state of incongruity that is most likely to bring about
change.

Heider (1958), from an interest in human perceptions,
developed the theory of cognitive balance. Schellenberg (1970)
considered both the congruity and cognitive balance theories
to have the same central focus, "Human nature abhors cognitive
inconsistency, and so we tend to reorganize attitudes toward
a condition of maximum evaluative consistency" (p. 116).

Over the years researchers have come to realize, when
attempts are made to measure attitude, that the process can be-
come very complicated since attitudes cannot be observed dir-
ectly, but must be inferred from behavior (Saunders and White,
1977). Summers (1970) noted that when measuring phenomena
which is inaccessible to direct observation it is beneficial
to conceptualize the measurement process as consisting of
three subprocesses: (1) identification of behavioral samples
which are acceptable as a framework for making inferences
about the underlying concept; (2) collection of the behavioral
samples; and (3) treatment of the behavioral samples so as to
reorganize them into a quantitative variable.

> Decisions as to what is acceptable as a basis
> for inference may preclude some methods of speci-
> men collection as well as restrict the manner in
> which the specimens can be treated. Thus a
> decision concerning one aspect of the problem
> will automatically affect the degree of freedom
> for the other two. (Summers, 1970, p. 1)

A further aspect of attitudes which has direct relevance
to attitude measurement was discussed by Murphy, Murphy and
Newcomb (1937). The researchers claimed that the concept
of attitude involves the notion of two extremes between which
individuals will vary in opposing or favoring some psychologi-
cal object. Thurstone and Chave (1956) stressed that no
researcher should ever assume a normal distribution will occur
among any groups of individuals when they are questioned
about their attitudes. According to Magary (1967) the most
important point to remember when attitude measurements are
taken revolves around the subject's honesty in responding to
the questions or statements. Gronlund (1965) stated, "atti-
tude scales . . . are primarily useful where the individual
has little reason for distorting the results, such as in the
development of self-understanding or research" (p. 354).

Many researchers favour the use of the Likert-type scale
for measuring attitudes and "the popularity of Likert's method
has been attributed to its ease of construction and reliabil-
ity" (Travers, 1973, p. 764). Remmers, Gage, and Rummel
(1965) have also indicated that the validity of the Likert
method is comparable to other attitude scales which have been
extensively used, for example, the scale developed by Thur-
stone.

With regard to the assessment of children's attitudes, Simon and Smoll (1974) noted that most children between the ages of 9 and 12 are developing basic attitudes about their environment. Therefore, children's attitudes can be measured (Girod, 1973), provided the testing instrument uses vocabulary and directions within their level of comprehension. According to Likert (1967), statements used to elicit attitude responses should be stated in such a manner that, "persons of less understanding than any member of a group for which the test is being constructed will understand and be able to respond to the statements" (p. 91).

CHILDREN'S ATTITUDES TOWARD GAMES

This final section of the review deals with children's attitudes toward the playing of games involving physical skill. As previously indicated in the first section of this chapter, Webb (1969) theorized that when children advance from participation in informal play to highly organized games, their attitude toward games becomes "professionalized." They appear to place an increasing emphasis on skilled performance and winning. Heinila (1969) had a similar notion of children's attitudes toward games. He indicated that young children emphasize spontaneous play in their games while the older individuals emphasize the game outcome and play to win. According to Watson (1976), there is a marked social class difference apparent in little league baseball players with regard to their stress on achievement mastery. Twelve year

old working class players have the strongest regard for this element, "compared to the middle class players who are dramatically low in their evaluation" (Watson, 1976, p. 107).

Sportsmanship as an attitude inherent in the playing of games has been a concern of some researchers. McAffee (1955) gave a nonscaled sportsmanship inventory to 857 sixth, seventh and eighth grade boys. The results illustrated that the boys' sportsmanship attitudes became progressively lower as they progressed from the sixth to the eighth grade. Lakie (1964; cited in Martens, 1975) found no difference in the attitudes of games players from different types of schools with regard to their assessment of the "win at all cost" philosophy.

In a study conducted on grade seven and eight northern native and Canadian southern children, the traditional game of broomball was modified to allow more cooperative play experiences (McNally and Orlick, 1977). As a result of this investigation McNally and Orlick made the following conclusion:

> When children were asked what they thought of
> the new rules, positive responses were obtained
> from 85% of the northern girls, 57% of the southern
> girls, 45% of the northern boys and 9% of the
> southern boys.... Fifty percent of the northern
> boys and 50% of the northern girls felt that these
> were more fun than the regular ones, whereas only
> 18% of the southern boys and 43% of the southern
> girls felt this way.... When asked if they would
> like to play this game again, 38% of the southern
> children said no. No northern children responded
> in this manner. (p. 3)

Children spend the majority of their free time outside of school involved in play activities and games, and their game preferences show marked sex differences (Lever, 1976).

Cratty (1967) noted that males are more active and gain leadership experience through games of physical endeavor, while girls are involved in games which emphasize manipulative activity. However, studies by Brown (1958) and Ward (1968) indicate young girls seem to participate in a wider range of games.

Comparing the results of child rearing practices and cross-cultural studies, Roberts and Sutton-Smith (1962) suggested that boys usually receive more achievement training. Therefore, they are more likely to desire games of physical skill; whereas, girls who generally receive more obedience and responsibility training, are more likely to seek out games of chance or strategy. Zoble (1976) also asserted, when girls receive achievement training, they too will often engage in games of physical skill as a means of attaining mastery and achievement.

In an investigation by Lever (1976), the researcher contended that boys' games usually last longer than those of girls'. Two major reasons for this occurrence are as follows: first, the skill level is generally higher in boys' games. A group of primary age boys find a game of baseball fun, and those same boys at the age of 12 can play the same game and enjoy it just as much because their skills have been progressively improving. In contrast, girls who play tag during their primary years still play the same games as sixth graders, but find the game boring. "To be sure, they are better ... runners, but the ceiling of skill was reached long ago"

(Lever, 1976, p. 482).

Second, boys can resolve disputes that arise in their games more effectively. Lever noted that boys often quarrel over game rules, but their games usually continue after a short debate. Traditional girls' games like hopscotch are turn-taking games where the nature of competition is indirect. These turn-taking games do not contain contingent rules of strategy as in many traditional boys' games; rather, they are regulated by rules of procedure. "Given the structure of girls' games, disputes are not likely to occur. Thus, girls gain little experience in the judicial process" (p. 483).

In summarizing the research regarding sex differences between boys and girls in their play and games activities, Zoble (1976) made the following comments:

> ... we see that as biology and culture interact
> during the females development, she is more likely
> than the male to become passive, dependent, and non-
> aggressive, to be less sure of her prescribed role,
> and to choose a wider range of play choices just be-
> fore puberty, which she will probably narrow after
> puberty when she reaches an age where society offers
> a more definite stereotyped role for her. (p. 188)

The research reviewed in this section pertaining to sex differences in children's game preferences appears to add credibility to Zoble's summation.

SUMMARY

This chapter has presented a review of the literature which is directly related to the research problem.

The discussion focused on the physical and psychosocial characteristics of upper elementary school children related

to the playing of games and games teaching. Prominent
theories related to children's moral development and concep-
tion of rules were investigated with particular emphasis
placed on the moral developmental theories proposed by Piaget
and Kohlberg. The review discussed games for upper elementary
school children in regard to the dysfunctional aspects related
to games, and the content and structure of games and games
teaching. Literature pertaining to attitude theory and mea-
surement was investigated; and research related to children's
attitudes toward games formed the concluding section.

CHAPTER III

METHODS AND PROCEDURES

INTRODUCTION

This study utilized two methods of data collection to
determine attitudes: inventory response and individual inter-
views. In both methods the subjects were required to indi-
cate agreement or disagreement with a predetermined collection
of statements about the playing of games and making rule
changes in selected game structures.

DEVELOPMENT OF THE ATTITUDE INVENTORIES

The use of attitude inventories was selected as the pri-
mary source of data collection. Initially, the researcher
prepared two lists of items, the first contained 22 statements
dealing with children's attitudes toward the playing of games,
and the second contained 31 statements dealing with children's
attitudes toward the changing of game rules. These lists
(Appendix A) were then sent to a panel of 10 judges at the
University of Alberta, who were considered knowledgeable in
the area of elementary school games and children's attitudes
toward games.

The judges were informed that the researcher intended to
use between 10 and 15 items from the first list, and between
15 and 20 from the second. They were also told that a balance

of statements was desired concerning the physical, social, emotional and intellectual aspects of modified game rules. The judges were then asked to determine the suitability of each statement for a grade six population, to indicate any other items which, in their opinion, should be included in the inventories, and to suggest changes in those statements that appeared ambiguous.

A decision rule similar to that used by Padfield (1978) was set for the inclusion or elimination of an item; specifically, statements receiving a minimum combined "Definitely Include" (1) and "Possibly Include" (.5) score of 7.5 were to be used in the final inventories. The method required a minimum of five "Definitely Include" and five "Possibly Include" responses or better from the 10 judges.

This procedure also served to determine the content validity of the two inventories. "Examining content validity ... requires judging whether each item--and the distribution of the items as a whole--covers what the tester wants to measure" (Cronbach, 1970, p. 148). According to Clarke (1967) a researcher must establish a criterion of the attitude being measured and compare the inventory with this criterion. If the two have a high relationship, the investigator may logically conclude that the inventory measures the same attitude as does the criterion. Validity may be determined by relating the inventory to the opinion of experts in the particular field (Barrow and McGee, 1971).

After the judges scored all the statements, the researcher,

totalled the scores for each item and selected those state-
ments which had a pooled assessment of 7.5 or better. From
the first list 11 statements were selected concerning chil-
dren's attitudes toward the playing of games. It was con-
sidered necessary to add a 12th statement (item 5 on the pre-
treatment inventory) to probe the children's attitudes to-
ward playing games outside of school that they make up them-
selves. From the second list 17 statements were originally
selected concerning attitudes toward the changing of game.
rules. However, three additional items (items 14, 20 and 22
on the experimental group's posttreatment inventory) were
added to improve the balance of statements referring to the
teacher changing rules. The two lists of selected statements
were then randomly ordered to form two attitude inventories
(Appendix B).

The researcher selected the Likert Method of scoring the
attitude inventories. This method ensured one of the follow-
ing responses from the children for each item on the inven-
tories: strongly agree (1), agree (2), disagree (3), or
strongly disagree (4).

To determine the reliability of the two inventories, the
test-retest method was utilized. This method is useful when
alternative forms of an inventory are not available or not
possible to construct (Borg, 1963).

The inventories were administered during a regular lesson
period to a class of grade six children at Lendrum Elementary
School in Edmonton. Twenty-five children completed the in-
ventories, but they were not told there would be a retest.

Eight days later at approximately the same time, the children were asked to complete the inventories once more. A time lapse of eight days was permitted because:

> When the test-retest method is used, the interval between tests should be at least several days so that the student's memory of his answers does not spuriously increase the consistency of scores. However, the time interval should not exceed two or three weeks because we are trying to measure stability of students' on the test ... (Adams, 1964, p. 85).

The Pearson Product Moment Correlation was used to determine the reliability coefficient of the attitude inventories. The first inventory, "Children's Attitudes Toward the Playing of Games," had a reliability of .78, and the second inventory, "Children's Attitudes Toward the Changing of Games Rules" had a reliability of .73. A reliability of .82 was obtained when the scores on both inventories were totalled for each subject. This higher coefficient may have been caused by the greater variation existing in the range of scores after the inventory assessments were totalled. It was decided that the reliability coefficients noted above were satisfactory for the purposes of this study.

The researcher decided to randomly combine the statements on the two previously mentioned inventories, and form a third inventory (Appendix B) entitled, "Children's Attitudes Toward the Playing of Games and Rule Changes." Although this procedure may have affected the reliability of responses to some degree from that of the other two inventories, it was considered advantageous to disguise the statements on the

first inventory, among those of the second.

DEVELOPMENT OF THE INTERVIEW

In the present study a four question "open-ended" inter-view schedule (Appendix C) was designed, using the previously described attitude inventories as a reference. According to Good and Scates, "Studies of attitude, in the usual experi-mental form, may reveal no average change in the attitude of the groups, but the interview may provide significant ex-planation" (1954, p. 639). Various probes were included with each leading question, "Probing is the technique used by the interviewer to stimulate discussion and obtain more information" (Institute for Social Research, 1969, pp. 2-4). The schedule was scrutinized by three of the previously men-tioned experts to remove redundancy and awkward wording. A schedule guide (Appendix C) was written based on a similar guide prepared by Padfield (1973b). Part of this guide, the "Introduction to the Interview," was read to each respondent prior to the interview so that each would receive the same information.

In order to select questions for the interview schedule the researcher had to determine the objective of each ques-tion. Item one was designed to determine how the children felt about the games they played during the treatment period. Item two had a double purpose; first, to check whether the children preferred the teacher or themselves developing the games and changing the rules, and second, to investigate

the interactions and experiences that occurred among the children while the games were being developed. In item three an attempt was made to determine if the treatment period had changed the children's attitudes toward playing games. The fourth item was included to ascertain whether the children understood the statements on the pre and posttreatment inventories; and to allow them an opportunity to make any final comments they wished about the games they had played.

SUBJECTS AND SETTING

The study used three classes of grade six children from the Edmonton Public School System. Two classes from one school comprised the experimental groups and one class from another school was used as the control group. The first experimental class consisted of 30 children and the other class had 26 students. The average age of the children was 11.5 and 11.8 respectively, the average age for all 56 experimental children was 11.7 years. The control class consisted of 25 children with an average age of 11.7. Overall, the children ranged from 10.3 to 12.9 years of age. The classes included both males and females and there were no select groups of any predetermined nature. This ensured a reasonable degree of heterogeneity among the members of all three classes.

The experimental and control groups participated in a total of 12 games lessons, each being 30 minutes in length. All games lessons were conducted in the gymnasium located in each school.

A total of 12 experimental children were selected for
the interviews. These interviews were conducted in a con-
ference room and the children sat at a table approximately
three or four feet away from the interviewer. The inter-
viewer positioned himself at a perpendicular angle across
from his subjects.

THE MODIFIED GAME STRUCTURES

A goal and a court game structure were utilized in this
investigation and the researcher develped "Rule Guidelines"
for these game structures (Appendix D). The purpose of the
guidelines was to familiarize the teacher of the experimental
classes with the game structures, and to ensure that the ex-
perimental classes stayed within the framework of the game
structures when the teacher and children were developing
their games. The guidelines described specific rules to be
followed, provided various alternatives, some of which had
to be selected, as well as others that were optional.

PROCEDURE

Pretreatment Procedure

Three weeks prior to the treatment period, the teacher
of the two experimental classes was given a copy of the rule
guidelines for the modified game structures. All aspects of
the game structures were explained to the teacher and ques-
tions regarding the structures were answered by the researcher.
The teacher of the control class was asked to prepare 12
traditional games lessons.

During the last physical education lesson prior to the treatment period; all classes involved in the investigation were given the pretreatment inventory, "Children's Attitudes Toward the Playing of Games." At the next lesson, both the control and experimental classes began the first of the 12 consecutive lessons comprising the treatment phase of the study.

The Control Condition

The control class was given seven volleyball and five basketball lessons, these periods were taught by the control teacher who used the command style of teaching. The control teacher emphasized the learning of the skills associated with volleyball and basketball, and toward the end of each game unit the children played games which closely resembled the above mentioned traditional games.

The Experimental Conditions

Experimental Class One

1. Goal Game Structure: Teacher Selected Rules

Over a period of three lessons the experimental teacher was directly responsible for instructing the children and developing a goal game within the guidelines as specified by the researcher. During the first lesson the teacher selected rule options from the guidelines and introduced a goal game that was played by the children. The remaining two lessons were very similar to the first period as the teacher continued to develop the game.

2. Goal Game Structure: Children Selected Rules

For the three lessons involved in this portion of the treatment period, the experimental teacher allowed the children to develop their own goal game and to change the rules as required. In the first lesson the teacher explained the rule options that were stated in the guideline, and a goal game structure chart was provided for the children to use throughout the remaining lessons. During the next two lessons the children continued to develop their game using suggestions offered by the teacher and the chart.

3. Court Game Structure: Children Selected Rules

At this stage of the treatment period the experimental teacher allowed the children to develop their own court game from the alternatives stated in the court game structure guideline. In the first lesson the teacher explained the rule options and a chart was provided for the children to utilize throughout the treatment period. The children began to develop their game with the teacher offering suggestions when major problems arose. This procedure continued for the next two lessons.

4. Court Game Structure: Teacher Selected Rules

This part of the treatment period was similar to the first phase explained above, except the court game structure was utilized rather than the goal game structure.

Experimental Class Two

Each phase noted below was similar to those above, with the exception of having the experimental teacher and children

treatment procedures reversed in order, for both game struc-
tures.

1. Goal Game Structure: Children Selected Rules

2. Goal Game Structure: Teacher Selected Rules

3. Court Game Structure: Teacher Selected Rules

4. Court Game Structure: Children Selected Rules

Figure 1

DESIGN OF EXPERIMENTAL CONDITIONS

Experimental Class #1

Goal Game Structure TEACHER SELECTED RULES	Goal Game Structure teacher ⟶ CHILDREN SELECTED RULES
Court Game Structure teacher ⟶ CHILDREN SELECTED RULES	Court Game Structure TEACHER SELECTED RULES

Experimental Class #2

Goal Game Structure teacher ⟶ CHILDREN SELECTED RULES	Goal Game Structure TEACHER SELECTED RULES
Court Game Structure TEACHER SELECTED RULES	Court Game Structure teacher ⟶ CHILDREN SELECTED RULES

Posttreatment Procedure

The day after the control and experimental classes had

finished the treatment period, they were given a post-treatment inventory. The control class was readministered the inventory, "Children's Attitudes Toward the Playing of Games"; and the experimental classes were given the previously described inventory, "Children's Attitudes Toward the Playing of Games and Rule Changes." After the classes completed the inventories, they were asked to fill in a general information questionnaire (Appendix E). This questionnaire was designed to determine the children's previous experience playing games in organized sports leagues or clubs outside of school, and in their school's intramural program.

During the week following the treatment period, interviews were conducted with 12 of the experimental children. These children consisted of six boys and six girls, three of each being randomly selected from both experimental classes. As previously mentioned, a short introduction was read to each child prior to the interview.

TREATMENT OF THE DATA

All background data pertaining to the children's previous experience playing games involving physical skills were answered directly on the general information questionnaire. A breakdown of this information can be found in Appendix F.

The children were asked to mark their responses to the pre and posttreatment attitude inventories on a General Purpose - NCS - Answer Sheet. These responses were then

optically scored by the AMDAHL - 470 computer at the University of Alberta Computing Services Department.

The majority of the statements on the inventories were worded in such a manner that they were scored according to the following system: one point was given for a strongly agree response, two for agree, three for disagree and four for strongly disagree. Some of the statements were worded in a negative form that required a reverse scoring procedure.

The analysis of the data collected from the pre and posttreatment attitude inventories initially involved computerized calculation of alpha reliability coefficients (Cronbach, 1970). This technique was used to compare the statement responses of the children on the pretreatment inventory, "Children's Attitudes Toward the Playing of Games," and help determine whether the statements on the inventory could be grouped into any of the following categories: physical items, social items or emotional items. A similar procedure was followed for those statements on the posttreatment inventory, "Children's Attitudes Toward the Playing of Games and Rule Changes," which directly referred to the changing of game rules. In addition to the categories mentioned above a fourth category, intellectual items was included for these statements. The researcher decided to accept only those items where the alpha reliability coefficients reached .50. This procedure gave reasonable assurance that there was an acceptable relationship between the items of each category as they pertained to: (1) the playing of games, and (2) the changing

of game rules (Dubois, 1965). Raw data illustrating the
children's responses to all inventory statements can be found
in Appendix F.

The data that remained concerning the children's atti-
tudes toward the playing of games were summated and subjected
to a two-way analyses of variance (Edwards, 1960). This was
done to determine significant differences between the Treat-
ment Groups x Sex with repeated measures for the accepted
categories on the pre and posttreatment inventories. Where
applicable the Newman-Keuls method corrected for unequal
means, was utilized to compare mean differences (Ferguson,
1976). The researcher used t-tests for independent samples
to analyze the data pertaining to the experimental children's
attitudes toward the changing of game rules.

All data were analyzed for significant differences be-
tween means with the level of significance chosen at five
(.05) percent. The above statistical analyses were completed
using the Statistical Package for the Social Sciences (SPSS)
- version H.

CHAPTER IV

RESULTS AND DISCUSSION

INTRODUCTION

The purpose of this chapter is to present and discuss
the results of the study. A discussion of the pre and post-
treatment results of the children's attitudes toward the
playing of games, as well as the changes that occurred in
the children's attitudes are presented in the first section.
The posttreatment results of the experimental children's
attitudes toward the changing of game rules are presented in
the second section. Excerpts of the interviews conducted
with selected children from both experimental classes are
illustrated in the third section, with a discussion of the
interview responses in the fourth. The chapter concludes
with a general discussion of the results.

PRE AND POSTTREATMENT RESULTS OF THE
CHILDREN'S ATTITUDES TOWARD THE
PLAYING OF GAMES

A total of 79 children responded to the pre and post-
treatment attitude inventory statements pertaining to the
playing of games. A boy and a girl from the second experimen-
tal class were absent when the pretreatment inventory was
administered; thus their posttreatment results were not in-
cluded in the data analysis.

Results of the Alpha Reliability Tests Con-
ducted on the Pretreatment Attitude Responses

In order to measure the effect of the game programs on
the children's attitudes toward the playing of games, the
researcher scrutinized the statements on the pretreatment
inventory, "Children's Attitudes Toward the Playing of Games,"
and assigned specific items to three different categories.
These categories were items related to the physical, social
and emotional aspects of playing games.

The children's responses were subjected to alpha realia-
bility procedures to determine the degree of relationship
among the items within each of the three categories. A
decision was made to accept only those categories of items
where the alpha reliability coefficient reached .50 (Dubois,
1965).

In order to group items that revealed the criterion
alpha reliabilities, it was necessary to manoeuvre statements
having a negative or a low reliability score and test them in
one or both of the other categories. Each time statements
were shifted among the categories an alpha reliability test
was conducted.

It was initially hypothesized that four statements on
the pretreatment inventory could be identified as physical
category items. Table I presents the original statements
and shows the three items that were categorized for the final
alpha reliability test. The items assigned to the physical
category for the final test had an alpha coefficient of .56.

Table I

STATEMENTS IN THE PHYSICAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE PLAYING OF GAMES

The Hypothesized Physical Statements

Children get plenty of exercise when they play games.

Playing games is only good for children who are good at sports.

Playing well is more important than winning a game.

Children can try new skills when they play games.

(alpha reliability coefficient = 0.00)

Items Included in the Physical Category
After the Alpha Reliability Tests

Children get plenty of exercise when they play games.

Playing well is more important than winning a game.

Children can try new skills when they play games.

(alpha reliability coefficient = 0.56)

Note: All statements in the finalized physical category were worded in a positive manner.

As indicated in Table I only one of the originally hypoth-
esized physical statements was removed. Of the statements
that remained two referred to "exercise" and "playing well"
and the other referred to "trying new skills". Consequently,
the researcher reasoned that these statements dealt with
physical aspects pertaining to the playing of games and that
the physical label applied to this category was justified.

Five statements on the pretreatment inventory were ini-
tially hypothesized as social category items. As a result of
an initial test two of the original social category items
were removed and replaced by two others. Table II presents
the initial statements along with the five items that were
clustered for the final alpha reliability test. The items
assigned to the social category for the final test had an
alpha coefficient of .49. Although this coefficient did not
reach the required criterion for acceptance, the researcher
kept the statements together because their "five items stan-
dardized item alpha" was .50, which was acceptable. An exam-
ination of the final cluster of statements revealed that the
first two items appeared to make reference to a social pref-
erence, "playing the same games all the time" and "playing
floor hockey and basketball rather than new games that chil-
dren make up themselves." The third statement referred to
a form of social interaction, "getting angry when opponents
win a game." The fourth statement appeared to have forced the
respondents to make a social judgement regarding games being
"only good for children who are good at sports." The fifth

Table II

STATEMENTS IN THE SOCIAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE PLAYING OF GAMES

The Hypothesized Social Statements

Playing games helps children learn how to cooperate with others.

Children like playing the same games all the time.

Children should make up the rules for their games.

Children would rather play floor hockey and basketball than play new games that they make up themselves.

Many children want to hog the ball all the time when they play games.

(alpha reliability coefficient = -0.24)

Items Included in the Social Category
After the Alpha Reliability Tests

Children like playing the same games all the time.

Children would rather play floor hockey and basketball than play new games that they make up themselves.

Children get very angry when their opponents win a game.

Playing games is only good for children who are good at sports.

Many children want to hog the ball all the time when they play games.

(alpha reliability coefficient = 0.49)

Note: All statements in the finalized social category were worded in a negative manner.

statement referred to a lack of social interaction, "children wanting to hog the ball all the time." After scrutinizing the final cluster of proposed social items the researcher reasoned that the statements dealt with social aspects pertaining to the playing of games; therefore, the social label applied to this category was justified.

Three statements on the pretreatment inventory were initially hypothesized as emotional category items. Table III presents the original statements and shows the four items that were clustered for the final alpha reliability test. The items assigned to the emotional category for the final test had an alpha coefficient of .28. This low coefficient indicated that no clear relationship existed among the statements, and they could not be labelled as emotional items. This category of statements was not used in any further statistical analysis pertaining to this study.

Summary

In order to measure the effect of the game programs on the children's attitudes toward games, the clusters of items identified through the alpha reliability process were used. There were three items categorized as physical and five categorized as social. There were no items categorized as emotional.

The Two-Way Analysis of Variance with Repeated Measures and the Change in Attitudes that Occurred between the Pre and Postreatment Periods

The results of the two-way analysis of variance, con-

Table III

STATEMENTS IN THE EMOTIONAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD THE

PLAYING OF GAMES

<u>The Hypothesized Emotional Statements</u>

It is fun to play games during physical education
class.

Children enjoy helping their friends make up their
own games when they play outside of school.

Children get very angry when their opponents win a
game.

(alpha reliability coefficient = 0.07)

Items Included in the Emotional Category
<u>After the Alpha Reliability Tests</u>

It is fun to play games during physical education
class.

Playing games helps children learn how to cooperate
with others.

Children should make up the rules for their games.

Children enjoy helping their friends make up their
own games when they play outside of school.

(alpha reliability coefficient = 0.28)

ducted on the summated responses to the physical category of items pertaining to the playing of games, are presented in Table IV. A significant group effect was found; however, the post-hoc Newman-Keuls comparisons resulted in no significant mean differences between the three groups. As noted in the table, the standard deviations reflect a lack of homogeneity of variance and this, along with the unequal number of subjects in each group, precluded the possibility of obtaining significant differences (Ferguson, 1976). The analysis of variance found no other significant differences. This indicated that the attitudes of the three groups of children had not changed regarding the physical aspects of playing games.

The results of the two-way analysis of variance, conducted on the summated responses to the social category of items pertaining to the playing of games, are presented in Table V. A significant group effect was found; however, the post-hoc Newman-Keuls comparions resulted in no significant mean differences between the three groups. As shown in the table, the standard deviations indicate a lack of homogeneity of variance and this, along with the unequal number of subjects in each group, prevented the possibility of obtaining significant differences.

The analyses of variance revealed that there was a significant difference between the boys' and the girls' responses to the social items on the attitude inventories. The lower

Table IV

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE OF THE PRE

AND POSTTREATMENT ATTITUDE SCORES ON THE PHYSICAL

CATEGORY BETWEEN THE THREE TREATMENT GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Groups (A)	18.212	2	9.106	5.076*
Sex (B)	0.434	1	0.242	0.624
A x B	2.432	2	1.216	0.678
Error	130.963	73	1.794	
Pre-Post (C)	1.667	1	1.667	1.295
A x C	2.058	2	1.029	0.799
B x C	0.245	1	0.245	0.191
A x B x C	6.799	2	3.399	2.639
Error	94.024	73	1.288	

* = p ≤.01

	Pre-Post Mean Score	Pre-Post Standard Deviations
Exp. Class 1 (N=30)	1.63	1.05
Exp. Class 2 (N=24)	1.58	1.00
Cont. Class (N=25)	1.85	1.47

Table V

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE OF THE PRE
AND POSTTREATMENT ATTITUDE SCORES ON THE SOCIAL
CATEGORY BETWEEN THE THREE TREATMENT GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Groups (A)	36.01	2	18.005	4.194**
Sex (B)	27.956	1	27.956	6.512*
A x B	16.665	2	8.332	1.941
Error	313.375	73	4.293	
Pre-Post (C)	0.044	1	0.044	0.023
A x C	4.549	2	2.275	1.181
B x C	2.347	1	2.347	1.218
A x B x C	1.721	2	0.860	0.447
Error	140.656	73	1.927	

$* = p \leq .01$

$** = p \leq .05$

	Pre-Post Mean Score	Pre-Post Standard Deviations
Exp. Class 1 (N=30)	2.03	1.4
Exp. Class 2 (N=24)	1.9	1.98
Cont. Class (N=25)	2.14	1.84
Boys (N=38)	2.12	1.8
Girls (N=41)	1.94	1.68

mean score of the girls for the social items (Table V) indi-
cated that they had a more positive attitude than the boys
toward the social aspects of playing games. No other signifi-
cant differences were found, an indication that the attitudes
of the three groups of children had not changed regarding
the social aspects of playing games.

<div style="text-align:center">

POSTTREATMENT RESULTS OF THE EXPERIMENTAL
CHILDREN'S ATTITUDES TOWARD THE
CHANGING OF GAME RULES

</div>

This section of the chapter discusses the results ob-
tained from the alpha reliability tests conducted on the ex-
perimental children's posttreatment attitude responses per-
taining to the changing of game rules. The section concludes
with a discussion of the effect that the modified game programs
had on the children's attitudes toward the changing of game
rules.

Results of the Alpha Reliability Tests Conducted on
the Posttreatment Rule Changing Attitude Responses

For the purpose of measuring the effect of the modified
game programs on the experimental children's attitudes toward
the changing of game rules, as indicated in Chapter III, 10
judges were asked to select a balance of statements referring
to the physical, social, emotional and intellectual aspects
of changing rules. After the experimental posttreatment in-
ventory was developed the statements pertaining to the chan-
ging of rules were examined and specific items were assigned
to the four previously noted categories.

The children's responses were subjected to alpha relia-
bility procedures to determine the degree of relationship
among the items within each of the four categories. A de-
cision was made to accept only those categories of items where
the alpha reliability coefficient reached .50 (Dubois, 1965).
The technique used to obtain the criterion alpha reliability
coefficients was similar to that previously described for
analyzing the proposed pretreatment categorized items--state-
ments with a low or a negative reliability coefficient in one
category were removed and tested in one or all of the other
clusters.

It was initially hypothesized that five statements per-
taining to the changing of rules could be identified as physi-
cal category items. Table VI presents the original statements
and shows the four items that were categorized for the final
alpha reliability test. The items assigned to the physical
category for the final test had an alpha coefficient of .56.
As indicated in the table only one of the originally proposed
physical statements was removed. The first statement in the
finalized cluster referred to the "difficulty of playing games
when the teacher makes rule changes," for this item it appeared
that the children were thinking of the physical difficulty
involved in playing games when they responded to the state-
ment. The other statements referred to physical aspects that
would be affected if rules were changed; for example, the
second statement made reference to "touching the ball more
often." Consequently, after scrutinizing the final cluster

Table VI

STATEMENTS IN THE PHYSICAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE CHANGING OF GAME RULES

The Hypothesized Physical Statements

Games become too difficult to play when the teacher changes the rules.

Children get a chance to touch the ball more often while playing games when the rules are changed.

Children prefer playing games when they make rule changes because they are able to try new skills.

When the rules are changed only children who play games well like to play.

Children are very active playing games when they have the opportunity to change rules.

(alpha reliability coefficient = 0.44)

Items Included in the Physical Category
After the Alpha Reliability Tests

Games become too difficult to play when the teacher changes the rules.

Children get a chance to touch the ball more often while playing games when the rules are changed.

When the rules are changed only children who play games well like to play.

Children are very active playing games when they have the opportunity to change rules.

(alpha reliability coefficient 0.56)

Note: The first and third statement in the finalized physical category were worded in a negative manner.

of items the researcher reasoned that the statements dealt
with physical aspects pertaining to the changing of game
rules and that the physical label applied to this category
was justified.

Eight posttreatment statements pertaining to the changing
of rules were initially hypothesized as social category items.
These statements are presented in Table VII along with the
five items that were clustered for the final alpha reliability
test. The items assigned to the social category for the final
test had an alpha coefficient of .60. As noted in the table,
four of the original items remained in the category for the
final test. An examination of the final cluster of state-
ments indicated that three of the statements made reference
to a form of social interaction, "children wanting their
ideas to be used every time," "passing the ball to each
other," and "spending too long changing the rules." The other
two appeared to have forced the children to make a social judge-
ment, "getting bored playing games when the teacher makes rule
changes" and "not changing rules after a game has started."
After scrutinizing the final cluster of proposed social items
the researcher reasoned that the statements dealt with social
aspects pertaining to the changing of game rules; therefore,
the social label applied to this category was justified.

Five posttreatment statements pertaining to the changing
of rules were initially hypothesized as emotional category
items. Table VIII presents the original statements and shows
the three items that were clustered for the final alpha relia-

Table VII

STATEMENTS IN THE SOCIAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE CHANGING OF GAME RULES

The Hypothesized Social Statements

Children often take too long to change the rules and
do not spend enough time playing the game.

Children would rather play games when rules do not
change because they enjoy playing the same games all
the time.

When children make rule changes in their games, some
want their ideas to be used every time.

The teacher should not make rule changes in children's
games.

Once children start to play a game, the rules should
not be changed.

Children pass the ball to each other more often when
they play games where the rules have been changed.

Games rules should not be changed.

Children do not mind when some of their classmates
want certain rules changed in their games.

(alpha reliability coefficient = 0.23)

Items Included in the Social Category
After the Alpha Reliability Tests

Children often take too long to change the rules and
do not spend enough time playing the game.

When children make rule changes in their games, some
want their ideas to be used every time.

Children get bored playing games when the teacher
makes the rule changes.

Once children start to play a game, the rules should
not be changed.

(Cont.)

Table VII Cont.

Children pass the ball to each other more often
when they play games where the rules have been
changed.

(alpha reliability coefficient = 0.60)

Note: All statements with the exception of the last item
were worded in a negative manner.

Table VIII

STATEMENTS IN THE EMOTIONAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE CHANGING OF GAME RULES

The Hypothesized Emotional Category

Children have fun playing games when the rules are changed.

Children feel good when the teacher makes rule changes in their games.

Children get bored playing games when the teacher makes rule changes.

Children do not like changing the rules in their games.

It is fun to play games when the teacher makes rule changes.

(alpha reliability coefficient = -0.41)

Items Included in the Emotional Category
After the Alpha Reliability Tests

Children would rather play games when rules do not change because they enjoy playing the same games all the time.

It is fun to play games when the teacher makes rule changes.

Children do not mind when some of their classmates want certain rules changed in their games.

(alpha reliability coefficient = 0.45)

bility test. The items assigned to the emotional category for the final test had an alpha coefficient of .45. This low coefficient indicated that no clear relationship existed among the statements, thus they could not be labelled as emotional items. This category of statements was not used in any further statistical analysis pertaining to this study.

Two posttreatment statements pertaining to the changing of rules were initially hypothesized as intellectual category items. Table IX presents these statements and shows the three items that were clustered for the final alpha reliability test. The items assigned to the intellectual category for the final test had an alpha coefficient of .53. As shown on the table one item was added to the original cluster. The first two items in the finalized category referred to "children learning a great deal about the different ways a game can be played," and "children knowing the things that make a game more fun." It appeared conceivable that the children were thinking of their knowledge of skills when they responded to the third statement. Consequently, the researcher reasoned that these statements dealt with intellectual aspects pertaining to the changing of game rules; thus the intellectual label applied to this category was justified.

Summary

In order to measure the effect of the modified game programs on the attitudes of the experimental children toward the changing of game rules, the clusters of items identified through the alpha reliability process were used. There were four items categorized as physical, five categorized as social

Table IX

STATEMENTS IN THE INTELLECTUAL CATEGORY PERTAINING

TO THE CHILDREN'S ATTITUDES TOWARD

THE CHANGING OF GAME RULES

The Hypothesized Intellectual Category

Children learn a great deal about the different ways a game can be played when rules are changed.

Children can change game rules because they know the things that make a game more fun.

(reliability coefficient = 0.38)

Items Included in the Intellectual Category
After the Alpha Reliability Tests

Children learn a great deal about the different ways a game can be played when rules are changed.

Children can change game rules because they know the things that make a game more fun.

Children prefer playing games when they make rule changes because they are able to try new skills.

(alpha reliability coefficient = 0.53)

Note: All statements in the intellectual category were worded in a positive manner.

and three categorized as intellectual. There were no items
categorized as emotional.

The Experimental Classes' Attitudes Toward the Changing of Game Rules

Table X shows the results of the t-tests conducted on
the mean scores of the two experimental classes' summated re-
sponses to the physical, social and intellectual items per-
taining to the changing of game rules. It can be observed
that a significant difference existed between the two classes'
responses to the social items. The interpretation of the
data indicated that experimental class two had a more positive
attitude toward the social aspects of changing game rules.
There were no other significant differences obtained from the
data.

The results of the t-tests conducted on the experimental
boys' and girls' mean scores are illustrated in Table XI. An
examination of the table shows that there were no significant
mean differences between the sexes.

EXCERPTS FROM THE INTERVIEWS

Some of the most interesting and relevant information
collected in this study was obtained from the open-ended inter-
views with the 12 children from the experimental classes.
Tables XII - XVII illustrate several of the children's re-
sponses to three of the major "items" or questions that were
asked. There are no excerpts shown for the fourth question
because of the lack of responses elicited by the respondents
for that particular item. All of the excerpts are direct

85

Table X

THE EXPERIMENTAL GROUPS' RESPONSES TO THE PHYSICAL,

SOCIAL AND INTELLECTUAL CATEGORIES PERTAINING TO

THE CHANGING OF GAME RULES

	$\bar{X}$ Score	t Value
Physical Category		
Exp. 1	8.77	0.47
Exp. 2	8.62	
Social Category		
Exp. 1	12.9	2.18**
Exp. 2	11.81	
Intellectual Category		
Exp. 1	5.83	0.9
Exp. 2	5.54	

** $p \leq .05$ (two-tailed test)

Exp. 1   N=30
Exp. 2   N=26

Table XI

THE EXPERIMENTAL BOYS' AND GIRLS" RESPONSES TO THE

PHYSICAL, SOCIAL AND INTELLECTUAL CATEGORIES

PERTAINING TO THE CHANGING OF GAME RULES

	$\bar{X}$ Score	t Value
Physical Category		
Exp. : Boys	8.48	
Exp. : Girls	8.90	-1.31
Social Category		
Exp. : Boys	12.11	
Exp. : Girls	12.66	-1.05
Intellectual Category		
Exp. : Boys	5.74	
Exp. : Girls	5.66	0.26

(two-tailed test)

Exp. : Boys   N=27
Exp. : Girls N=29

Table XII

ITEM 1.   EXPERIMENTAL CLASS ONE

I would like to know what you thought of the games
you played during the last 12 lessons?

Sex	Responses
Boys	They were interesting games, they were fun . . . some of the kids were a little rough sometimes and they hogged the ball a bit.
	The games were alright, most of the time it was good. I liked the competing . . . no one making a big fuss about winning or losing. . . . sometimes the teacher made too many rule changes and it got confusing.
	Changing the rules everyday is good because you can try new things.
	The court games were more interesting. The goal games . . . were not as good, the courts were small and we couldn't do much with the ball.
Girls	They were fun and really different, usually you play soccer or something like that.
	You can change the rules of most games and come up with a better game.
	I like it, but . . . . some games weren't really organized. . . . We were thinking about changing a game but we didn't know how.
	Sometimes [the rules were changed too often] because we would come up with some fun games and then we would have to change the rules because. . . the boys wanted to do this and the girls wanted to do that.

Table XIII

ITEM 1.   EXPERIMENTAL CLASS TWO

I would like to know what you thought of the games
you played during the last 12 lessons?

Sex	Responses
Boys	They were fun, they were enjoyable. They made me feel like part of the group. You got to play with the ball more and you usually had to run around more. Yes, that was good [changing rules] I didn't get to change them that much . . . we just picked someone in our group to change them. In one game the girls didn't want to play what we wanted to play so we made up different rules.
Girls	They were pretty good but some were kind of babyish. . . . in some of them it seemed like I was in grade three or four when I was playing them. Yes, it was a lot of fun [changing rules] because you got new challenges. The court games [were better] because they were easier to play. . . . you didn't have to plan ahead your plays.

Table XIV

ITEM 2.   EXPERIMENTAL CLASS ONE

Did you prefer the teacher developing the games and
changing the rules or was it better when you and your
classmates had the opportunity?

Sex	Responses
Boys	Students changing the rules is better because. . . . Us kids are about the same and we know what we should do and what we shouldn't do. We can suit things to our way but the teachers may suit things to their way.
	Everyone had to be happy [in child oriented games] and agree on the rules in order to make it fair. . . . Everyone contributed.
	I don't think we did argue [in child oriented games], we talked over the rules and compromised when the rules weren't fair.
Girls	When we made up the games it took too long, so I liked the teacher making up the games. . . . When we did the goal games we argued a lot. . . . The boys wanted to do this and the girls wanted to do that.
	It was better when the class had the opportunity to change rules. Most of us had played sports and we liked changing the rules in our games.

Table XV

ITEM 2.   EXPERIMENTAL CLASS TWO

Did you prefer the teacher developing the games and
changing the rules or was it better when you and your
classmates had the opportunity?

Sex	Responses
Boys	It didn't matter rules are rules no matter who changes them. I like it when our own groups changed the rules because. . . . They could make up the games the way that they wanted to play. . . . The groups had more feelings about the games. . . . Once in a while, one guy would score and another person would throw the ball at the goal . . . and try to count it as a goal.
Girls	It was better when [the teacher] did because the rules were clearer. Sometimes it took two periods to get our games going. . . . When I suggested a change the others would say it was totally wrong. Well it was fun both ways. . . . nobody cheated because if you do the game is ruined. When we had the opportunity because we got to put in our own ideas with everyone else's ideas. Everybodys ideas could be made into one big game. . .this was good because your part was in there.

Table XVI

ITEM 3.   EXPERIMENTAL CLASS ONE

Do you think these past several games lessons have changed your feelings about playing games in any way?

Sex	Responses
Boys	No not at all. . . . well games are games and most of them are just fun.
	It changed my opinion about how you can experiment with rules, also about how you can use different equipment. . . . I guess these lessons have given me a feeling of freedom with games.
	No. . . . I like playing both kinds of games, in some games like baseball you have a chance to get good at something and join a team. In the other types of games you don't have to be good when rules change often.
Girls	A little, now I have more ideas about changing games, so I can change some of the games I play.
	Yes, I like them [traditional games] but I would rather have games where rules change.
	It depends on what game it is, in some games if I don't really like it I would suggest rule changes.

Table XVII

ITEM 3.   EXPERIMENTAL CLASS TWO

    Do you think these past several games lessons have
    changed your feelings about playing games in any way?

Sex	Response
Boys	Before I used to think changing rules wouldn't be any fun, but they are fun! Probably, I don't really like games like basketball, maybe, if you played games like that and you could change rules you could make it harder or easier. I like games where rules barely ever change. . . . I guess I prefer games like hockey best of all.
Girls	When you are playing games like those, [where rules can change] you learn how to cooperate with your friends and be a good sport. No, my feelings about games and changing rules haven't changed. When you change rules it usually gives someone an advantage and another person a less advantage. Yes, at first I wasn't very keen about playing games where you can change rules, but now I think they are pretty good because you learn new things.

quotations taken from the interview transcriptions. They were selected as representative of the answers to the questions and their respective probes.

DISCUSSION OF INTERVIEW RESPONSES

The overall results obtained from the interviews indicated that the majority of respondents liked playing modified games where rules could be changed. It would be an oversimplification however, to maintain that most of the children's attitudes toward playing the games were similar. Both similarities and differences were exhibited with respect to several probing questions.

There was considerable variation regarding what the children liked and disliked most about the games. Some of the respondents felt that the rules were often changed for inappropriate reasons, for example; when a good game was developed, many would have liked the opportunity to play it longer. Several of the children preferred playing the court games. A few of them indicated that the playing areas for the goal games were too small and this decreased their opportunities for manoeuvring the ball. Only three children suggested a preference for the goal games and two of those were boys. A further investigation of the boys' general information questionnaires indicated that the two boys had previously played several goal games in organized leagues outside of school. This previous experience may have influenced their responses during the interview.

In reference to making changes to game rules, seven children, five boys and two girls suggested that they preferred making their own rule changes. The boys stated that they enjoyed changing rules in spite of the problems that arose. They also liked discussing the games with their groups because they believed the discussions resulted in better ideas. In contrast, when the teacher altered the game structures the children felt that their ideas were not considered. Some of the students felt that this decreased their learning experiences and personal satisfaction. Three girls strongly supported the teacher developing the games. They felt that the teacher's games did not take as long to get started, and when he altered the rules it eliminated the conflicts that often evolved between the boys and girls.

The fact that more boys than girls preferred making their own rule changes is consistent with the findings of Lever (1976). She maintained that boys can resolve disputes more effectively than girls and continue playing their games.

Eight of the children felt that their experience playing the modified games had favourably altered their opinions toward games to some degree. Four students indicated that they liked playing both types of games, the modified as well as the traditional. They suggested the modified games gave them the opportunity to experiment with rules and to try different equipment. A few children attempted to rationalize the advantages of both types of games. They felt that the traditional games like basketball had their place because a person could

join a team and play against other good teams. The modified
games were also good because they enabled children to play a
variety of games both in and out of school. Peake's (1974)
concept of variation in children's games might be applicable
here. "Children in elementary school . . . need variety pro-
vided by new or different games but not to the complete ex-
clusion of traditional games" (p. 44).

All of the respondents indicated that they understood
the statements on the posttreatment inventory. Two respon-
dents said that a few times they had a problem deciding whe-
ther they agreed or disagreed with a statement. When asked
if they would like to make any further comments about the
games only two people responded, one boy stated:

> The sportsmanship of the people involved in
> the games was quite good. No one went off
> and pouted in a corner when others wanted
> different rules.

GENERAL DISCUSSION OF THE RESULTS

In order to conduct this exploratory study of children's
attitudes toward the playing of games and rule changes, the
researcher selected three classes of grade six children. The
selection of this age group was considered crucial as children
of approximately 11 or 12 years of age have gained consider-
able experience in playing games involving physical skillls.
Furthermore, unlike younger individuals they no longer believe
that game rules should not be changed; they realize that rules
can be altered to meet existing environmental conditions and

that they must be changed by the mutual agreement of their peers (Piaget, 1965). This attitude toward rules can be further substantiated by comments made by several of the children interviewed in this investigation; for example, one of the girls (Table XII) stated that, "You can change the rules of most games and come up with a better game."

It is of particular importance to note that no significant differences could be determined between the treatment groups regarding their attitudes toward the physical or the social aspects of playing games. As previously indicated this was partially due to the lack of homogeneity of variance that existed among the data. It was conceivable that the children were thinking specifically of the physical skills involved in playing games when they responded to the items categorized as physical. A possible indication of this factor was given by one of the children (Table XIII) when he referred to the equipment handling skill of playing with a ball. Therefore, the inclusion of more specific items referring directly to physical skill, might have resulted in a higher alpha reliability coefficient. Furthermore, perhaps a more appropriate heading for this category might have been "physical skill."

Similarly, the children may have been reflecting their familiarity with games when they responded to the items pertaining to the playing of games that were categorized as social. An examination of Table II verifies that the children's

previous experience of participating in games may have influenced their responses to these items; for example, the second item in the finalized category referred to children playing floor hockey and basketball rather than new games that they make up themselves. This statement required the children to reflect on their previous games experience; thus, the inclusion of more specific items referring directly to game familiarity, might have resulted in a higher alpha reliability coefficient. Moreover, perhaps a more appropriate heading for this category might have been "game familiarity."

In order to opportunize the chances of obtaining significant results further studies may extend the treatment period, block the subjects upon an independent variable such as skill in games, and limit the subjects of the study to one sex.

The two-way analysis of variance did not find a significant change in the children's attitudes toward the physical or the social aspects of playing games. This indicated that the treatment conditions did not produce a state of incongruity in the children's attitudes toward these aspects. As Osgood and Tannenbaum (1955) have indicated, a state of incongruity is necessary in order to bring about any change in an individual's attitudes. However, it is interesting to note that eight of the interviewed children who played the modified games where rules could be changed, stated that their attitudes toward games had been altered to some degree. This phenomena illustrated the importance of the interview tech-

nique utilized by the researcher. It verified Good and Scates (1954) assertion that attitude research in the usual experimental form may not reveal an average change in the subjects' opinions. An interview on the other hand may provide significant explanation regarding the results or it may point to new avenues and methods for further research. In this study it appeared that the majority of experimental children favoured the modified games. It was possible that the lack of homogeneity of variance masked any true differences that might have actually existed between the groups.

Another important point indicated by the results of the analysis of variance was that a significant difference existed between the boys and the girls with respect to their attitudes toward the social aspects of playing games. This result may have been caused by the children thinking of their familiarity with the games rather than of the broader factors related to the social aspects of games. The data collected on the general information questionnaires indicated that the boys had more experience playing games and they were more familiar with a variety of different games. Therefore, it is quite probable that they were more concerned with the strategies and skill techniques involved in playing games than were the girls. On the other hand, the girls seemed to have emphasized their desire of getting games started as quickly as possible without wasting any time. They were concerned with the development of games, which were less complicated than the boys', where

the rules could be quickly organized and everyone could begin playing with very little confusion occurring. This need to establish the basic structure of a game before developing more complicated playing rules and strategies may have resulted from the girls' lack of familiarity with a variety of games, and their insufficient knowledge of the internal structures that can be changed in a game. This feeling was specifically verbalized by one of the girls during the interview (Table XII) when she stated that, "some games weren't really organized. . . . We were thinking about changing a game but we didn't know how."

A final point of major interest was apparent within the emotional categories pertaining to the playing of games and the changing of game rules. The items in these categories did not reach the required alpha reliability coefficients considered necessary for them to be used in this study. It appeared that the items were unacceptable because the children were not able to differentiate between the emotional statements and the statements in the other categories. An example of this possibility can be seen by examining the following item taken from the emotional category pertaining to the changing of game rules (Table VIII), "Children would rather play games when rules do not change because they enjoy playing the same game all the time." It is conceivable that the children were thinking of their familiarity with games rather than with their feelings toward playing games when rules do

…

not change.

    To conclude this discussion the researcher, on the basis of the findings of the present study, considers it mandatory that additional attention be given to the development of a more sensitive instrument to measure all of the categories previously mentioned. Particularly, it is apparent that a great deal of work needs to be directed toward the emotional area.

CHAPTER V

SUMMARY AND CONCLUSIONS

SUMMARY

This chapter presents a brief resume of the purpose and design of the study, and succintly reviews the major findings that were earlier reported in detail.

The main purpose of this investigation was to conduct an exploratory examination of the attitudes of grade six children toward the playing of games involving physical skills, and toward rule changes that were made by the teacher or the children in these games. The subsidiary purpose of the investigation was twofold: first, to see if any changes occurred in the attitudes of grade six children as a result of playing modified games wherein rule changes were permitted. Second, to see if there were any sex differences between the children with respect to their attitudes toward the playing of games, as well as toward rule changes that were made to modified game structures.

In order to conduct this study the following instruments were developed by the researcher. First, rule guidelines were compiled for modified court games and modified goal games. Second, two attitude inventories were constructed, one dealing with children's attitudes toward the playing of games and the

other with children's attitudes toward the playing of games and rule changes; the Likert Method was used to score the inventories. Third, an open-ended interview schedule was designed to supplement the attitude inventories. Lastly, a general information questionnaire was devised to determine the children's previous experience playing games within organized sports leagues or clubs, as well as in their school's intramural program.

The subjects used in this study consisted of 81 grade six children. A control class comprised 25 children and two experimental classes, from another school, consisted of 30 and 26 children respectively.

Prior to the treatment period all three classes were given a pretreatment attitude inventory entitled, "Children's Attitudes Toward the Playing of Games." For 12 consecutive lessons the classes participated in the treatment phase of the investigation. The control condition included two traditional games taught by the control teacher who used the command style of teaching. The experimental conditions involved the experimental classes participating in two modified goal games and two modified court games. One game of each type was presented with the rules being periodically changed by the teacher, and the other of each type was developed from rules selected by the children. Each part of the experimental procedure, the teacher or the children making rule selections, lasted for three physical education lessons. After the treatment period had ended each class was given a posttreatment

attitude inventory. The control class was readministered the same inventory as they had previously received. The experimental classes were given the inventory entitled, "Children's Attitudes Toward the Playing of Games and Rule Changes." When the children had finished the inventories they were asked to complete the general information questionnaire. During the week following the treatment period interviews were conducted with six boys and six girls, three of each being randomly selected from both experimental classes.

To determine whether the statements on the pretreatment attitude inventory could be grouped into any of the following categories: physical items, social items or emotional items, alpha reliability tests were conducted. After the alpha tests were completed the researcher scrutinized the statements in each category in order to justify the physical, social and emotional labels applied to the statements. A similar procedure was followed for the statements on the experimental posttreatment inventory pertaining to the changing of game rules, in this case an additional category, intellectual items, was included. A decision was made to accept only those categories of items where the alpha reliability coefficient reached .50.

To statistically analyze the children's attitude responses toward the playing of games a two-way analysis of variance was performed on the mean scores of accepted statement categories. This was done to determine significant differences between the Treatment Groups x Sex with repeated measures.

The Newman-Keuls statistical procedure was utilized to com-
pare the mean scores of the three groups. A t-test analysis,
conducted on the responses obtained from the accepted state-
ment categories pertaining to the children's attitudes toward
the changing of game rules, was used to examine the mean dif-
ferences between the two experimental groups and between the
experimental boys and the girls. In all cases the level of
significance was chosen at 5 percent.

The results indicated that several statements on the pre-
treatment inventory could be grouped into either a physical
or a social category. When the pre and posttreatment inven-
tories were analyzed no significant differences were found
between the mean scores of the three treatment groups regard-
ing their attitudes toward the physical or the social aspects
of playing games. However, there was a significant difference
between the mean score of the boys and the mean score of the
girls regarding the social items. The girls' mean score
showed a more positive attitude toward the social aspects of
playing games.

The analysis of the pre and posttreatment inventory data
revealed that no changes had occurred in the attitudes of the
three groups of children regarding the physical or the social
aspects of playing games.

The investigation revealed that several statements on
the experimental posttreatment inventory pertaining to the
changing of game rules could be grouped into a physical, social
or intellectual category. The analysis of the data obtained

for the social category indicated that a significant difference had occurred between the mean scores of the two experimental groups. The children in the second group had a more positive attitude toward the social aspects of changing game rules. There were no significant differences between the mean scores of the experimental boys and the mean scores of the experimental girls for any of the rule changing categories.

The majority of the 12 experimental children who were interviewed stated that they liked playing modified games where rules could be changed. Five boys and two girls preferred making their own rule changes to modified games. Eight of the respondents felt that their experience playing the modified games had favourably altered their opinions toward the playing of games. Four of the respondents indicated that they liked playing traditional games, as well as the modified games.

CONCLUSIONS

Within the limitations of this exploratory study it should be stressed that the following conclusions, except those related to the children's interview responses, may only be tentative in nature. All concluding statements were formulated on the basis of:

(1) The pre and posttreatment attitude inventories administered to a control class and two experimental classes of grade six children.

(2) The interviews conducted with 12 children from the ex-

perimental classes.

(A) Several items on the pre and posttreatment inventories pertaining to the children's attitudes toward the playing of games were grouped into a physical or a social category. There were no significant differences found between the three classes of children with respect to their attitudes toward the physical or the social aspects of playing games. There was a significant difference between the boys and the girls from all three classes regarding their attitudes toward the social aspects of playing games. The girls indicated a more positive attitude toward the social items than did the boys.

(B) Participation in the modified game programs that permitted rules to be altered did not change the attitudes of the children toward the physical or the social aspects of playing games.

(C) Several items on the experimental posttreatment inventory pertaining to the changing of game rules were grouped into a physical, social, or intellectual category. There was a significant difference between the two experimental classes with respect to their attitudes toward the social items. The children in the second class had a more positive attitude toward the social aspects of changing game rules. No significant sex differences were observed for the experimental children regarding their attitudes toward the rule changing categories.

(D)   The majority of the experimental children inter-
viewed in this study indicated that they like playing modi-
fied games where rules could be changed. There were more boys
than girls who preferred making their own rule changes to the
game structures. Most of the children felt that their atti-
tudes toward the playing of games had been favourably altered
as a result of playing the modified games.

The experimental children's responses to the interview
questions are pertinent to the teaching of games in elemen-
tary schools. The responses indicate that grade six children
can utilize the problem-solving approach stressed by many
educators and that they can develop unique and imaginative
games. In this investigation there were more boys than girls
who preferred making their own rule changes. One determining
factor of this may have been the presentation of the game
structures. It appears essential that the presented game
structures should be designed for the decision-making ability
of the children to prevent confusion and the need to spend
too much time developing a game.

The researcher contends that this type of activity is
a worthwhile experience for all upper elementary children.
When the activity is appropriately organized it gives the
children an opportunity to work with their classmates to
develop games through the process of sharing ideas. This
procedure is conducive to the learning of new physical skills

and game playing strategies.

In accordance with the findings of several researchers previously mentioned in this study (Peake, 1974, for example), the interview responses illustrate that grade six children like variety in their game activities. They want to master the details of the rules of different games and follow them with the mutual agreement of their peers. Therefore, this investigation supports the premise that, instead of solely using traditional games in the elementary school environment, rule alterations should often be introduced to these games structures in an attempt to make the playing of games a more meaningful and success-oriented experience for children, thus ensuring more versatile and content players. Furthermore, children should be given ample opportunities to make their own alterations to these game structures.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. Repeat this study:

  (a) with the treatment conditions lasting for a longer period of time and with larger numbers of children;

  (b) with children of different age groups; and

  (c) using rule guidelines for different modified games structures.

2. Conduct similar studies:

  (a) comparing the attitudes of urban children toward the playing of games and rule changes with those of rural children.

(b) comparing the attitudes of children from different socioeconomic backgrounds.

3. Develop a suitable instrument to measure children's attitudes toward the emotional aspects of playing games and changing rules.

4. Conduct a comprehensive study examining the impact that different teaching styles have on children's attitudes toward playing games and changing rules.

BIBLIOGRAPHY

Adams, F. H. Factors affecting the working capacity of children and adolescents. In G. L. Rarick (Ed.), Physical activity: Human growth and development. New York: Academic Press, 1973.

Adams, G. S. Measurement and evaluation in education, psychology, and guidance. New York: Holt, Rinehart and Winston, Inc., 1964.

Allport, G. W. Attitudes. In M. Fishbein (Ed.), Readings in attitude theory and measurement. New York: John Wiley and Sons, Inc., 1967.

American Association for Health, Physical Education and Recreation. Desirable athletic competition for children of elementary school age. Washington: NEA Publication Sales, 1968.

Anderson, M. E. Games skills. London: W. and R. Chambers Ltd., 1971.

Asmussen, E. Growth in muscular strength and power. In G. L. Rarick (Ed.), Physical activity: Human growth and development. New York: Academic Press, 1973.

Astrand, P. O. The child in sport and physical activity: Physiology. In J. G. Albinson and G. M. Andrew (Eds.), Child in sport and physical activity. Baltimore, Maryland: University Park Press, 1976.

Bailey, D. A. Exercise and growth. Paper presented at The Man and Exercise Symposium, St. Paul's Hospital, Saskatoon, Saskatchewan, 1971.

Bailey, D. A. Exercise, fitness and physical education for the growing child - A concern. Canadian Journal of Public Health, 1973, 64, 421-430.

Bailey, D. A. Physical activity during the growing years. Na' paie - Saskatchewan Anthropology Journal, 1975, 5(1), 47-52.

Bailey, D. A. The growing child and the need for physical activity. In J. G. Albinson and G. M. Andrew (Eds.), Child in sport and physical activity. Baltimore, Maryland: University Park Press, 1976.

Bandura, A., and Walters, R. H. Social learning and personality development. New York: Holt, Rinehart, and Winston, 1963.

Barrett, K. R. Educational games. In B. Logsdon (Ed.), Physical education for children: A focus on the teaching process. Philadelphia: Lea and Febiger, 1977(a).

Barrett, K. R. Games teaching: Adaptable skills, versatile players. Journal of Physical Education and Recreation, 1977, 48(7), 21-24. (b)

Barrow, H. M., and McGee, R. A practical approach to measurement in physical education (2nd ed.). Philadelphia: Lea and Febiger, 1971.

Bend, E. Some potential dysfunctional effects of sports upon socialization. Paper presented at the Third International Symposium on the Sociology of Sport, Waterloo, Ontario, 1971.

Bobroff, A. The stages of maturation in socialized thinking and in the ego development of two groups of children. Child Development, 1960, 31, 321-338.

Borg, W. R. Educational research: An introduction. New York: David McKay Co., Inc., 1963.

Bossard, J. H. S., and Boll, E. S. The sociology of child development (4th ed.). New York: Harper and Brothers, Publishers, 1966.

Botterill, C. Minor hockey environment and behavior: An analysis with proposals for change. Unpublished M.A. Thesis, University of Alberta, 1972.

Brown, D. G. Sex-role development in a changing culture. Psychological Bulletin, 1958, 55(4), 232-241.

Brown, R. Social psychology, London: The Free Press, 1965.

Cameron, W. McD. and Cameron, M. Education in movement in the infant school. Oxford: Basil Blackwell, 1969.

Canadian Association for Health, Physical Education and Recreation. New perspectives for elementary school physical education programs in Canada. Ottawa, Ontario: Author, 1976.

Clarke, H. H. Application of measurement to health and physical education (4th ed.). Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967.

Clausen, J. A. (Ed.). Socialization and society. Boston: Little, Brown and Company, 1968.

Craig, P. C. The socio-psychological effects of modified, cooperation-oriented game environments on elementary school children. Unpublished M.A. Thesis, University of Alberta, 1975.

Cratty, B. J. Social dimensions of physical activity.
Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967.

Cratty, B. J. Learning about human behavior: Through active games. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975.

Cronbach, L. J. Essentials of psychological testing (3rd ed.). New York: Harper and Row, 1970.

Curriculum Services Branch. Physical education in the junior school. Etobicoke, Toronto: Board of Education, 1973.

Daume, W. The main features of present-day society. In J. G. Albinson and G. M. Andrew (Eds.), Child in sport and physical activity. Baltimore: University Park Press, 1976.

Department of Education. Elementary physical education. Edmonton: Government of Alberta, 1969.

Department of Education. Physical education curriculum guide: Kindergarten - Grade eleven. St. John's: Government of Newfoundland and Labrador, 1975.

Department of Education. Physical education in the elementary schools (Book 1, Levels P-3). Halifax: Government of Nova Scotia, 1975-76.

Department of Education and Science. Movement: Physical education in the primary years. London: Her Majesty's Stationary Office, 1972.

Devereux, E. C. Backyard versus little league baseball: Some observations on the impoverishment of children's games in contemporary America. In A. Yiannakis, T. D. McIntyre, M. J. Melnick and D. P. Hart (Eds.), Sport sociology: Contemporary themes. Dubuque, Iowa: Kendall Hunt Publishing Co., 1976.

Dubois, P. H. An introduction to psychological statistics. New York: Harper and Row, 1965.

Dunn, M. Games activities for juniors. London: Blackie and Son Ltd., 1970.

Edwards, A. L. Experimental design in psychological research (2nd ed.). New York: Holt, Rinehart and Winston, 1960.

Ellis, M. Discovery and invention in games. Elements, 1970, 1(5), 4-5.

Ellis, M. Let's develop everybody's skill! Quest, 1973, 2(3), 14-17. (Unpublished)

114

Ferguson, G. A. Statistical analysis in psychology and edu-
     cation (4th ed.). New York: McGraw-Hill, Inc., 1976.

Flavell, J. H. The developmental psychology of Jean Piaget.
     Princeton, New Jersey: Van Nostrand Company Ltd., 1963.

Fleming, C. M. Research evidence and Christian education.
     Learning for Living, 1966, 6(1), 10-13.

Gesell, A., Ilg, F. L., and Ames, L. B. Youth: The years
     from ten to sixteen. New York: Harper and Row, 1956.

Girod, G. R. Writing and assessing attitudinal objectives.
     Columbus, Ohio: Charles E. Merrill Publishing Co., 1973.

Glassford, G. The twenty foot high basketball hoop. Quest,
     1973, 2(3), 5-7. (Unpublished)

Good, C. V., and Scates, D. E. Methods of research. New
     York: Appleton-Century-Crofts, 1954.

Graham, G. Helping students design their own games. Journal
     of Physical Education and Recreation, 1977, 48(7), 35.

Gronland, N. E. Measurement and evaluation in teaching.
     New York: The MacMillan Co., 1965.

Gump, P. V., and Sutton-Smith, B. The it role in children's
     games. In E. M. Auedon and B. Sutton-Smith (Eds.), The
     study of games. Toronto: John Wiley and Sons, Inc.,
     1971.

Guppy, N. The effect of selected socialization practices on
     the sport achievement orientations of male and female
     adolescents. Unpublished Masters Thesis, University
     of Waterloo, 1974.

Hardisty, M. J. Education through the games experience.
     Bellingham, Washington: Educational Designs and
     Consultants, 1972.

Hartley, R. E., and Hardesty, F. P. Children's perceptions
     of sex roles in childhood. Journal of Genetic Psychology,
     1964, 105, 43-51.

Heider, F. The psychology of interpersonal relations. New
     York: Wiley, 1958.

Heinila, K. Football at the crossroads. International Re-
     view of Sport Sociology, 1969, 4, 5-30.

Helanko, R. Sports and socialization. In N. J. Smelser and
     W. T. Smelser (Eds.), Personality and social systems.
     New York: John Wiley and Sons, Inc., 1963.

Helanko, R. The yard community and its play activities. International Review of Sport Sociology, 1969, 4, 177-187.

Hodgkins, J. Reaction time and speed of movement in males and females of various ages. Research Quarterly, 1963, 34(3), 335-343.

Holt, J. How children fail. New York: Dell, 1970.

Humphrey, J. H. Child learning: Through elementary school physical education (2nd ed.). Dubuque, Iowa: W. C. Brown Co., Publishers, 1974.

Humphries, M., and Shephard, A. H. Age and training in the development of perceptual-motor skill. Perceptual and Motor Skills, 1959, 9, 3-11.

Institute for Social Research. Interviewer's Manual. Ann Arbor, Michigan: University of Michigan, 1969.

Isaacs, S. Social development in young children. London: Routledge and Kegan Paul Ltd., 1933.

James, T. N., Frogatt, P. and Marshall, T. K. Sudden death in young athletes. Annals of Internal Medicine, 1967, 67, 1113-1021.

Jensen, P. K. Increasing cooperative social interactions between kindergarten children in a free play setting. Unpublished Doctoral Dissertation, University of Alberta.

Johnson, R. A study of children's moral judgements. Child Development, 1962, 33, 327-354.

Jones, H. E. Motor performance and growth. Berkeley, California: University of California Press, 1949.

Katz, D., and Stotland, E. A preliminary statement to a theory of attitude structure and change. In S. Koch (Ed.), Psychology: A study of a science (Vol. 3). New York: McGraw-Hill, 1959.

Kay, W. Moral development (2nd ed.). London: George Allen and Unwin Ltd., 1970.

Kohlberg, L. Moral development and identification. In H. W. Stevenson, J. Kagan and C. Spiker (Eds.), Child psychology: The sixty-second yearbook of the National Society for the Study of Education (Part 1). Chicago: The University of Chicago Press, 1963.

Kohlberg, L. Development of moral character and moral ideology.

In M. L. Hoffman and L. W. Hoffman (Eds.), Review of child development research (Vol. 1). New York: Russell Sage Foundation, 1964.

Kohlberg, L. Moral education in the schools: A developmental view. The School Review, 1966, 74(1), 1-30.

Kohlberg, L. The child as a moral philosopher. Psychology Today, 1968, 2(4), 25-30.

Kohlberg, L. Moral stages and moralization: The cognitive-developmental approach. In T. Lickona (Ed.), Moral development and behavior: Theory, research and social issues. New York: Holt, Rinehart, and Winston, 1976.

Koller, M. R., and Ritchie, O. W. Sociology of childhood (2nd ed.). Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1978.

Krech, D., Crutchfield, R. S., and Ballachy, E. L. Individual in society. New York: McGraw-Hill, 1962.

Kruger, H., and Kruger, J. M. Movement education in physical education: A guide to teaching and planning. Dubuque, Iowa: Wm. C. Brown, 1977.

Layman, E. M. The contribution of play and sports to emotional health. In J. E. Kane (Ed.), Psychological aspects of physical education and sport. Boston: Routledge and Kegan Paul, 1972.

Lefrancois, G. R. Of children: An introduction to child development (2nd ed.). Belmont, California: Wadsworth Publishing Co., Inc., 1977.

Lenel, R. M. Games in the primary school. London: University of London Press Ltd., 1969.

Leonard, G. The ultimate athlete. New York: Avon Book, 1977.

Lerner, E. The problem of perspective in moral reasoning. American Journal of Sociology, 1937, 43, 249-269.

Lerner, R. M. Concepts and theories of human development. Reading, Mass: Addison-Wesley Publishing Co., 1976.

Lever, J. Sex differences in the games children play. Social Problems, 1976, 23(4), 479-488.

Levy, J. Play behavior. Toronto: John Wiley and Sons, 1978.

Liebert, R. M., Poulos, R. W., and Marmor, G. S. Developmental psychology (2nd ed.). Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1977.

Likert, R. The method of constructing an attitude scale. In M. Fishbein (Ed.), Readings in attitude theory and measurement. New York: John Wiley and Sons, Inc., 1967.

Logsdon, B. J. (Ed.). Physical education for children: A focus on the teaching process. Philadelphia: Lea and Febiger, 1977.

Loy, J. W. Sport for adults - Athletics for children: Satisfaction or success. Paper presented at the Conference on Sport or Athletics: A North American Dilemma, University of Windsor, Windsor, Ontario, 1973.

Loy, J. W., and Ingham, A. G. Play, games and sport in the psychosociological development of children and youth. In G. L. Rarick (Ed.), Physical activity: Human growth and development. New York: Academic Press, 1973.

Loy, J. W., McPherson, B. D., and Kenyon, G. Sport and social systems. Reading, Massachusetts: Addison-Wesley Publishing Company, 1978.

Maccoby, E. Sex differences. Stanford, California: Stanford University Press, 1966.

Maccoby E. The development of moral values and behavior in childhood. In J. A. Clausen (Ed.), Socialization and society. Boston: Little, Brown and Co., 1968.

MacKay, I. D. A comparison of the effects of modified games on eight and nine year old boys. Unpublished M. A. Thesis, University of Alberta, 1974.

MacKay I. D., and Robbins, S. What's so magic in eleven? Canadian Soccer News, 1975, 5(1), 23.

MacRae, D. Jr. A test of Piaget's theories of moral development. Journal of Abnormal Social Psychology, 1954, 49, 14-18.

Magary, J. F. (Ed.). School psychological services in theory and practice. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967.

Martens, R. Social psychology and physical activity. New York: Harper and Row, Inc., 1975.

Mauldon, E., and Redfern, H. B. Games teaching. London: Macdonald and Evans Ltd., 1969.

McAffee, R. A. Sportsmanship attitudes of sixth, seventh, and eighth grade boys. Research Quarterly, 1955, 26(1), 120.

McKinney, E. O. But can game skills be taught. Journal of Physical Education and Recreation, 1977, 48(7), 18-20.

McNally, J., and Orlick, T. Cooperative sport structure: A preliminary analysis. In unpublished review, New and modified games, prepared by M. Ellis, University of Alberta, 1977.

McPherson, B. D., Guppy, L. N., and McKay, J. P. The social structure of the game and sport milieu. In J. G. Albinson and G. M. Andrew (Eds.), Child in sport and physical activity. Baltimore, Maryland: University Park Press, 1976.

Mead, G. H. Mind, self, and society. Chicago: The University of Chicago Press, 1934.

Ministry of Education. Moving and growing. London: Her Majesty's Stationary Office, 1952.

Morris, G. S. D. Effects ball and background colour have upon the catching performance of elementary school children. Research Quarterly, 1976, 47(3), 409-416. (a)

Morris, G. S. D. How to change the games children play. Minneapolis, Minnesota: Burgess Publishing Company, 1976. (b)

Morris, G. S. D. Let's give the games back to the children. Journal of Physical Education and Recreation, 1977, 48(7), 26-27.

Murphy, G., Murphy, L. B., and Newcomb, T. M. Experimental social psychology. New York: Harper and Brothers, 1937.

Neill, A. S. Summerhill: A radical approach to child rearing. New York: Hart Publishing Co., 1960.

Nelson, L. L., and Kagan, S. Competition: The star-spangled scramble. Psychology Today, 1972, 6(4), 53-56; 90-91.

Ontario Department of Education. Physical and health education interim revision. Toronto: Government of Ontario, 1967.

Opie, I., and Opie, P. Children's games in street and playground. Oxford: Charendon Press, 1969.

Orlick, T. D. An analysis of early sports participation.

Unpublished Doctoral Dissertation, University of Alberta, 1972.'

Orlick, T. D. The athletic drop-out a high price for inefficiency. Journal of the Canadian Association for Health, Physical Education and Recreation, 1974, 41(2), 21-27.

Orlick, T. D. Cooperative games. Journal of Physical Education and Recreation, 1977, 48(7), 33-35.

Orlick, T. D. Winning through cooperation. Washington: Acropolis Books Ltd., 1978.

Orlick, T. D., and Botterill, C. Every kid can win. Chicago: Nelson-Hall, 1975.

Osgood, C. E., and Tannenbaum, P. H. The principle of congruity in the prediction of attitude change. Psychological Review, 1955, 62, 42-55.

Padfield, C. A. F. Do our programs lead to success or failure? Elements, 1973, 5(1), 1-2. (a)

Padfield, C. A. F. Teachers' attitudes towards creative dance: A survey through questionnaire and personal interviews. Unpublished M. Ed. Thesis, University of Alberta, 1973. (b)

Padfield, C. A. F. A comparison of the value systems of academic administrators and physical educators in seven Western Canadian Universities. Unpublished Doctoral Dissertation, University of Southern California, 1978.

Papalia, D. E., and Olds, S. W. A child's world: Infancy through adolescence. New York: McGraw-Hill Book Co., 1975.

Peake, L. A creative games project. Journal of the Canadian Association for Health, Physical Education and Recreation, 1974, 40(3), 38-45.

Phomin, A. J. The effects of performance in a motor ability skills test on the athletic skills test on the athletic self concept of elementary school boys aged six, seven and eight. Unpublished M. A. Thesis, University of Alberta, 1976.

Piaget, J. [Psychology of intelligence] (M. Piercy and D. E. Berlyne, Trans.). London: Routledge and Kegan Paul Ltd., 1950. (Originally published, 1947.)

Piaget, J. [Play, dreams and imitation in childhood] (C. Gattegno and F. M. Hodgson, Trans.). London: Routledge and Kegan Paul Ltd., 1962. (Originally published, 1951.)

120

Piaget, J. [The moral judgement of the child] (M. Gabain, Trans.) New York: The Free Press, 1965. (Originally published, 1932.)

Rarick, G. L. (Ed.). Physical activity: Human growth and development. New York: Academic Press, 1973.

Remmers, H. H., Gage, N. L., and Rummel, J. F. Measurement and Evaluation (2nd ed.). New York: Harper and Row, 1965.

Riley, M. Teaching original games. Journal of Physical Education and Recreation, 1977, 48(7), 30-32.

Robbins, S. G. The good get better and the poor get poorer. Elements, 1973, 5(1), 2-3.

Robbins, S. G. If the hat fits wear it. But if not - what? Canadian Association for Health, Physical Education and Recreation, 1975, 41(5), 31-33.

Roberts, J. M., Arth, M. J., and Bush, R. R. Games in culture. American Anthropologist, 1959, 61, 597-605.

Roberts, J. M., and Sutton-Smith, B. Child training and game involvement. Ethnology, 1962, 1, 166-185.

Roberts, J. M., Sutton-Smith, B., and Kendon, A. Strategy in games and folk tales. Journal of Social Psychology, 1963, 61, 185-199.

Robertson, M. A. Developmental implications for games teaching. Journal of Physical Education and Recreation, 1977, 48(7), 25.

Sande, D. J. Play to play. Elements, 1972, 4(2), 5.

Saunders, E. D., and White, G. B. Social investigation in physical education and sport. London: Lepus Books, 1977.

Schellenberg, J. A. An introduction to social psychology. New York: Random House, 1970.

Sherif, C. W., and Rattray, G. D. Psychological development and activity in middle childhood (5-12 years). In J. G. Albinson and G. M. Andrew (Eds.), Child in sport and physical activity. Baltimore, Maryland: University Park Press, 1976.

Sherif, M., and Sherif, C. Reference groups: Conformity and deviation of adolescents. New York: Harper and Row, 1964.

Sherif, M., and Sherif, C. W. Social psychology (3rd ed.). New York: Harper and Row, 1969.

Simon, J. A., and Smoll, F. L. An instrument for assessing children's attitudes toward physical activity. Research Quarterly, 1974, 45(4), 407-415,

Singer, R. N. Physical characteristic, perceptual-motor, and intelligence differences between third and sixth-grade children. Research Quarterly, 1969, 40(4), 803-811.

Skinner, B. F. The technology of teaching. New York: Appleton-Century-Croft, 1968.

Smith, M. F. On the journey from a to b. Elements, 1973, 5(1), 10-12.

Smoll, F. L., and Denotter, P. Intraindividual variability in development of accuracy of motor performance. Journal of Motor Behavior, 1976, 8(3), 195-201.

Staats, C. K., Staats, A. W., and Heard, W. G. Attitude development and ratio of reinforcement. Sociometry, 1960, 23, 338-350.

Staniford, D. J. Play and physical activity in early childhood socialization. Canadian Association for Health, Physical Education and Recreation: Sociology of Sport Monograph Series, 1978.

Stanley, S. Physical education: A movement orientation. (2nd ed.). Toronto: McGraw-Hill Ryerson Ltd., 1977.

Summers, G. F. (Ed.). Attitude measurement. Chicago: Rand McNally and Co., 1970.

Sutton-Smith, B. Games-play-daydreams. Quest X, 1968, 47-58.

Sutton-Smith, B. The folkgames of children. Austin, Texas: University of Texas Press, 1972.

Sutton-Smith, B. A structural grammar of games and sports. International Review of Sport Sociology, 1976, 11(2), 117-137.

Thomas, W. I., and Znaniechi, F. The Polish peasant in Europe and America. Boston: R. C. Badger, 1918.

Thurstone, L. L., Chave, E. J. The measurement of attitude: A psychophysical method of some experiments with a scale for measuring attitude towards the church. Chicago: The University of Chicago Press, 1956.

Travers, R. M. W. (Ed.). Second handbook of research on teaching. Chicago: Rand McNally and Co., 1973.

Turiel, E. Developmental processes in the child's moral think-
     ing. In P. H. Mussen, J. Langer, and M. Covington (Eds.),
     Trends and issues in developmental psychology. New York:
     Holt, Rinehart and Winston, 1969.

Usher, P., and Robbins, S. Hey coach! I'm only small. Can-
     adian Soccer News, 1975, 5(3), 15-16. (b)

Usher, P., and Robbins, S. The motivation paradox in minor
     soccer. Canadian Soccer News, 1975, 5(2), 14-15. (a)

Ward, W. D. Variance of sex-role preference among boys and
     girls. Psychological Reports, 1968, 23, 467-470.

Watson, G. G. Reward systems in children's games: The
     attraction of game interaction in Little League Baseball.
     Review of Sports and Leisure, 1976, 1, 93-121.

Wear, C. L. The evaluation of physical education as an ac-
     tivity course. Research Quarterly, 1951, 22(1), 114-126.

Webb, H. Professionalization of attitudes toward play among
     adolescents. In G. S. Kenyon (Ed.), Aspects of contem-
     porary sport sociology. Chicago: The Athletic Institute,
     1969.

Wells, M. Physical education council report. Newfoundland
     Teacher's Association Bulletin, 1978, 22(6), 10-11.

Werner, P. Inexpensive equipment for innovative games. Jour-
     nal of Physical Education and Recreation, 1977, 48(7),
     28.

Wise, W. M. Games and sports. London: Heinemann Educational
     Books Ltd., 1969.

Zoble, J. E. Femininity and achievement in sports. In A.
     Yiannakis, T. D. McIntyre, M. J. Melnick, and D. P. Hart
     (Eds.), Sport sociology: Contemporary themes. Dubuque,
     Iowa: Kendall Hunt Publishing Co., 1976.

APPENDIX A

REQUEST MADE TO JUDGES AND THE ORIGINAL

STATEMENTS FROM WHICH THE FINAL

ATTITUDE INVENTORIES

WERE DEVELOPED

REQUEST TO JUDGES

Please find enclosed two proposed lists of statements
dealing with (1) children's attitudes towards the playing
of games, and (2) children's attitudes towards the changing
of games rules. From the first list I intend to use between
10 and 15 statements and from the second I intend to use
between 15 and 20 items for my study.

Among those items selected from the second list I would
like to achieve a balance of statements concerning the physi-
cal, social, emotional and intellectual aspects of changing
modified games rules. Also, I want to utilize some statements
that specifically refer to either the teacher or children
changing rules. Each one of the selected statements will be
randomly positioned in the final draft of the inventories.

For the purpose of the study I would appreciate your
time and effort in judging the two lists of items enclosed
and indicating whether, in your opinion, a statement should
be either (1) definitely included, (2) possibly included,
or (3) not included in a study of this nature.

I would also appreciate your efforts in rewording any
items that appear ambiguous or adding any statements that, in
your opinion should be included.

Instructions

In the column provided on the left-hand side of this paper please indicate for each attitude statement one of the following:

1. statement should definitely be included

2. statement may possibly be included

3. statement should not be included.

Indicate your choice by placing either 1, 2, or 3 in the column beside each statement. Please make changes or add statements where necessary.

Children's Attitudes Toward the Playing of Games

1. Children get a lot of exercise when they play games.

2. Children can try new skills when they play games.

3. Playing games does not make children healthy and physically fit.

4. Playing games helps children learn about how they move.

5. Playing games is only good for children who are good at sports.

6. Children want to "hog" the ball all the time when they play games.

7. Children would rather play floor hockey and basket-ball than play new games which they develop themselves.

8. Playing well is more important than winning a game.

9. Children prefer playing the same games all the time.

10. Playing games helps children learn how to cooperate with others.

11. Children should make up the rules for their games.

12. Children argue a lot about obeying the rules of a game.

13. Playing games helps children understand the feelings of others.

14. Children feel great when they play games.

15. It is no fun to play games during physical education class.

16. Children enjoy helping their friends outside of school make up their own games.

17. Playing games makes a player hate the other team.

18. Children get mad when their opponents win a game.

19. It is fun to play games that are organized by adults.

20. Children cheat when they play games.

21. Children enjoy playing games with their classmates.

22. It is not much fun to play new games organized by the teacher.

Children's Attitudes Toward the Changing of Games Rules

1. Children are very active playing games when they have the opportunity to change the rules.

2. Children get a chance to touch the ball more often while playing games where the rules are changed.

3. When children play games where rules are changed, it often takes too long to change the rules and not enough time is spent playing the game.

4. Children prefer playing games when they make rule changes because they are able to try new skills.

5. Children get a lot of exercise while playing games when the teacher makes the rule changes.

6. Only children who play games well, prefer playing games when the rules are changed.

7. Children want to "hog" the ball all the time when they play games where the rules do not change.

8. Children pass the ball to each other more often when they play games where the rules are changed.

9. Once children start to play a game, the rules should not be changed.

10. Children should make the rule changes in their games.

11. Children would rather play games like floor hockey and basketball where rules do not change than play games when rules are changed.

12. Children do not mind when some of their classmates want certain rules changed in their games.

13. The teacher should not make rule changes in children's games.

14. It is good for both boys and girls to play games when the rules are changed.

15. Games rules should not be changed.

16. When children make rule changes in their games, some want their ideas to be used every time.

17. Children who participate in games where the rules are changed are good "sports".

18. Children prefer playing games when rules do not change because they enjoy playing the same game all the time.

19. It is fun to play games when the teacher makes rule changes.

20. Playing games when the rules are changed helps children feel more successful.

21. Children get bored playing games when the rules are not changed.

22. Children feel like cheating when they play games where rules do not change.

23. Children have fun playing games when the rules are changed.

24. When the teacher makes rule changes in a game, it makes children feel successful.

25. Children like changing the rules in their games.

26. Children have many ideas which they can use as rule changes in their games.

27. Children learn a lot about the different ways a game can be played when rules are changed.

28. A few rules can be used to start a game and others can be added or changed later.

29. Children are capable of changing games rules because they know the things that make a game more fun.

30. Children do not understand how rules control a game, therefore, they should not make changes to the rules.

31. When the teacher changes the rules, a game becomes more challenging.

APPENDIX B

PRELIMINARY INVENTORIES (RELIABILITY TEST

INVENTORIES) AND EXPERIMENTAL CLASSES'

POSTTREATMENT INVENTORY

Children's Attitudes Toward the Playing
of Games and Rule Changes

Demographic Information

Before doing anything else, please use your pencil
to fill in the following information on your answer
sheet:

1. Your Sex

    EXAMPLE:

    ```
    ┌─────────┐
    │    S    │
    │    E    │
    │    X    │
    │         │
    │   Ⓜ    │
    │         │
    │   Ⓕ    │
    └─────────┘
    ```

2. Your Birth Date

    EXAMPLE:

	BIRTH DATE			
MO.	DAY		YR.	
Jan. ◯				
Feb. ●	0	6	6	7
Mar. ◯	Ⓞ	⓪	⓪	⓪
Apr. ◯	①	①	①	①
May ◯	②	②	②	②
Jun. ◯	③	③	③	③
Jul. ◯		④	④	④
Aug. ◯		⑤	⑤	⑤
Sep. ◯		⑥	⑥	⑥
Oct. ◯		⑦	⑦	⑦
Nov. ◯		⑧	⑧	⑧
Dec. ◯		⑨	⑨	⑨

Inventory Directions

The following statements try to find out how grade six children feel toward the playing of games, and games rule changes that are made by the teacher or children.

The statements have <u>no</u> right or wrong answers. Please answer as you feel. <u>With the answer sheet</u> that is given to you simply use your pencil to <u>fill in the circle</u> that contains the number which best tells how you feel about the statement. Your answers will <u>not</u> affect your grade in any course.

Also, if you do not understand a statement please mark an "<u>X</u>" in the square to the left of the statement, and <u>circle</u> the word or words that you do not understand.

EXAMPLE:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children like to eat hot dogs because they taste good.	1	2	3	4

(In responding to this type of statement, first try to decide whether you agree with it or whether you disagree with it. Then decide whether you strongly agree, agree OR strongly disagree, disagree.)

Answer Sheet: A   B   C   D   E

1. ① ② ③ ④ ⑤

Please do not fill in circle number 5 (⑤ᴱ) for any of the statements. If you are not sure how to mark your answer sheet please ask the person who gave you the sheet.

TURN THE PAGE AND BEGIN

PART I

Children's Attitudes Toward the Playing of Games

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. It is fun to play games during physical education class.	1	2	3	4
2. Playing games helps children learn how to cooperate with others.	1	2	3	4
3. Children like playing the same games all the time.	1	2	3	4
4. Children should make up the rules for their games.	1	2	3	4
5. Children enjoy helping their friends make up their own games when they play outside of school.	1	2	3	4
6. Children would rather play floor hockey and basketball than play new games that they make up themselves.	1	2	3	4
7. Children get very angry when their opponents win a game.	1	2	3	4
8. Children get plenty of exercise when they play games.	1	2	3	4
9. Playing games is only good for children who are good at sports.	1	2	3	4
10. Playing well is more important than winning a game.	1	2	3	4
11. Many children want to hog the ball all the time when they play games.	1	2	3	4
12. Children can try new skills when they play games.	1	2	3	4

PART II

Children's Attitudes Toward the Changing of Games Rules

		Strongly Agree	Agree	Disagree	Strongly Disagree
☐	13. Children would rather play games when rules do not change because they enjoy playing the same games all the time.	1	2	3	4
☐	14. Children feel good when the teacher makes rule changes in their games.	1	2	3	4
☐	15. Once children start to play a game, the rules should not be changed.	1	2	3	4
☐	16. Children are very active playing games when they have the opportunity to change rules.	1	2	3	4
☐	17. When children make rule changes in their games, some want their ideas to be used every time.	1	2	3	4
☐	18. Children often take too long to change the rules and do not spend enough time playing the game.	1	2	3	4
☐	19. Children prefer playing games when they make rule changes because they are able to try new skills.	1	2	3	4
☐	20. Games become too difficult to play when the teacher changes the rules.	1	2	3	4
☐	21. When the rules are changed only children who play games well like to play.	1	2	3	4
☐	22. Children get bored playing games when the teacher makes rule changes.	1	2	3	4

		Strongly Agree	Agree	Disagree	Strongly Disagree
☐	23. Children get a chance to touch the ball more often while playing games when the rules are changed.	1	2	3	4
☐	24. Games rules should not be changed.	1	2	3	4
☐	25. Children learn a great deal about the different ways a game can be played when rules are changed.	1	2	3	4
☐	26. The teacher should not make rule changes in children's games.	1	2	3	4
☐	27. Children can change games rules because they know the things that make a game more fun.	1	2	3	4
☐	28. Children do not mind when some of their classmates want certain rules changed in their games.	1	2	3	4
☐	29. Children pass the ball to each other more often when they play games where the rules have been changed.	1	2	3	4
☐	30. Children have fun playing games when the rules are changed.	1	2	3	4
☐	31. It is fun to play games when the teacher makes rule changes.	1	2	3	4
☐	32. Children do not like changing the rules in their games.	1	2	3	4

Children's Attitudes Toward the Playing
of Games and Rule Changes

Demographic Information

Before doing anything else, please use your pencil to fill in the following information on your answer sheet:

1. Your Sex

   EXAMPLE:

   ```
   S
   E
   X

   Ⓜ (filled)
   Ⓕ
   ```

2. Your Birth Date

   EXAMPLE:

	BIRTH DATE		
MO.	DAY	YR.	
Jan. ○			
Feb. ◉	0 6	6 7	
Mar. ○	⓪(filled) ⓪	⓪ ⓪	
Apr. ○	① ①	① ①	
May ○	② ②	② ②	
Jun. ○	③ ③	③ ③	
Jul. ○	④	④ ④	
Aug. ○	⑤	⑤ ⑤	
Sep. ○	⑥(filled)	⑥(filled) ⑥	
Oct. ○	⑦	⑦ ⑦(filled)	
Nov. ○	⑧	⑧ ⑧	
Dec. ○	⑨	⑨ ⑨	

Inventory Directions

The following statements try to find out how grade six children feel toward the playing of games, and games rule changes that are made by the teacher or children.

The statements have <u>no</u> right or wrong answers. Please answer as you feel. <u>With the answer sheet</u> that is given to you simply use your pencil to <u>fill in the circle</u> that contains the number which best tells how you feel about the statement. Your answers will <u>not</u> affect your grade in any course.

EXAMPLE:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children like to eat hot dogs because they taste good.	1	2	3	4

(In responding to this type of statement, first try to decide whether you agree with it or whether you disagree with it. Then decide whether you strongly agree, agree OR strongly disagree, disagree.)

Answer Sheet: A   B   C   D   E

             1.   ①   ②   ③   ④   ⑤

Please do not fill in circle number 5 (⑤) for any of the statements. If you are not sure how to mark your answer sheet please ask the person who gave you the sheet.

TURN THE PAGE AND BEGIN

Children's Attitudes Toward the Playing of Games and Rule Changes

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Children have fun playing games when the rules are changed.	1	2	3	4
2. Children often take too long to change the rules and do not spend enough time playing the game.	1	2	3	4
3. Children would rather play games when rules do not change because they enjoy playing the same games all the time.	1	2	3	4
4. Children learn a great deal about the different ways a game can be played when rules are changed.	1	2	3	4
5. Games become too difficult to play when the teacher changes the rules.	1	2	3	4
6. Children feel good when the teacher makes rule changes in their games.	1	2	3	4
7. Children get a chance to touch the ball more often while playing games when the rules are changed.	1	2	3	4
8. Children would rather play floor hockey and basketball than play new games that they make up themselves.	1	2	3	4
9. Many children want to hog the ball all the time when they play games.	1	2	3	4
10. Playing games helps children learn how to cooperate with others.	1	2	3	4

		Strongly Agree	Agree	Disagree	Strongly Disagree
11.	Children can change games rules because they know the things that make a game more fun.	1	2	3	4
12.	Children get very angry when their opponents win a game.	1	2	3	4
13.	When children make rule changes in their games, some want their ideas to be used every time.	1	2	3	4
14.	Children get bored playing games when the teacher makes rule changes.	1	2	3	4
15.	It is fun to play games during physical education class.	1	2	3	4
16.	Children should make up the rules for their games.	1	2	3	4
17.	Children like playing the same games all the time.	1	2	3	4
18.	Children enjoy helping their friends make up their own games when they play outside of school.	1	2	3	4
19.	Children prefer playing games when they make rule changes because they are able to try new skills.	1	2	3	4
20.	Children do not like changing the rules in their games.	1	2	3	4
21.	Playing games is only good for children who are good at sports.	1	2	3	4
22.	The teacher should not make rule changes in children's games.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
23. Children can try new skills when they play games.	1	2	3	4
24. When the rules are changed only children who play games well like to play.	1	2	3	4
25. Playing well is more important than winning a game.	1	2	3	4
26. Once children start to play a game, the rules should not be changed.	1	2	3	4
27. Children pass the ball to each other more often when they play games where the rules have been changed.	1	2	3	4
28. Children are very active playing games when they have the opportunity to change rules.	1	2	3	4
29. It is fun to play games when the teacher makes rule changes.	1	2	3	4
30. Children get plenty of exercise when they play games.	1	2	3	4
31. Games rules should not be changed.	1	2	3	4
32. Children do not mind when some of their classmates want certain rules changed in their games.	1	2	3	4

APPENDIX C

GUIDE TO THE SCHEDULE AND

INTERVIEW SCHEDULE

Schedule Guide

Procedure

    After entering the room the child will be thanked for
coming to the interview and will be invited to sit down in
a chair a few feet from the interviewer, and make himself
comfortable.

    The interviewer will mention that he enjoyed watching
the games lessons and was particularly interested in seeing
the students' and teacher's games develop. It will be indi-
cated to the child that although he has answered some ques-
tions there are others which are important.

    At this point, the child will be asked to listen to a
short introduction explaining the purpose of the interview.

Introduction to the Interview (To be read to each child)

    Before I begin asking you questions I would like to tell
you something about my work. I am attempting to find out how
children feel about playing games and having their teacher
or themselves change the rules in their games.

    I would like to record our talk as it would be impossible
for me to remember or write down everything you say. I will
not use your name and I will be the only person to hear your
statements, so please feel free to make any comments you wish,
as I am very interested in your comments.

    After we have talked, I would be pleased to answer any
questions you may have concerning the past 12 games lessons.

Interview Schedule

Item 1

I would like to know what you thought of the games you played during the last 12 lessons?

Probe 1: Did you like playing the games? (Probe for reasons).

Probe 2: What did you like most about playing the games? (Probe: Why - Did you like having an opportunity to change the rules?)

Probe 3: What did you dislike most? (Probe: Why - Did you think the rules were changed too often? If answer was "yes" - When did this happen?)

Probe 4: Which type of game did you like most, the court games or the goal games? (Probe for reasons particularly with regard to the rules).

Item 2

Did you prefer the teacher developing the games and changing the rules or was it better when you and your classmates had the opportunity?

Probe 1: Why do feel that way? (Probe for reasons).

Probe 2: Would you like it if that sort of thing was done more often during games lessons in physical education? (Probe for reasons - Why might it be a good idea to change rules?)

Probe 3: Did the people in your groups argue a lot when you and your classmates changed the rules? (Explain your answer - Why did this happen? When did it happen most? How was it resolved?)

Probe 4: Did everyone help when your groups changed the rules? (Probe for reasons - Why did this happen? How often did it happen?)

Probe 5: Did any children cheat in the games when your groups changed the rules? (Explain your answer - Why did this happen? If answer was "yes" - How often did it happen and how could it have been avoided?)

Probe 6: Did any children cheat when the teacher changed the rules? (Explain your answer - Why did this happen? If answer was "yes" - How often did it happen and how could it have been avoided?)

Item 2 contd.

Probe 7: Did you find that you were often standing and
          watching other players more involved in playing
          the games? (Explain your answer - Why did this
          happen? If answer was "yes" - How could it have
          been avoided?)

Probe 8: Did you have the chance to handle the ball (object)
          very often while playing the games? (Explain your
          answer - Why did this happen? If answer was "no"
          - When did it happen most? Would rule changes have
          helped?)

Item 3

Do you think these past several games lessons have changed
your feelings about playing games in any way?

Probe 1: (Depending on the answer given above) Why do you
          think your feelings have changed - or have not
          changed? (Probe for reasons).

Probe 2: Do you think that being given the chance to change
          the rules in games has changed your feelings in
          any way? (Probe for explanation - Why?)

Probe 3: Do you prefer playing games like basketball where
          rules hardly every change? (Probe for reasons).

Item 4

Would you like to make any comments about the statements you
answered for me on the inventory concerning your feelings to-
ward playing games and making rule changes?

Probe 1: Were the statements easy to understand?

Probe 2: Were there some things I didn't ask you that you
          feel are important? (Probe: Are you sure? If
          answer was "yes" - Probe for explanation).

APPENDIX D

RULE GUIDELINES PERTAINING TO THE

MODIFIED GAME STRUCTURES

RULE GUIDELINES:

MODIFIED GOAL GAME STRUCTURE

General Description

This game structure involves two teams; one using the skills of passing, running, and shooting to move an object towards a goal or goal-line, for the purpose of scoring goals; the other using defensive skills such as intercepting passes and guarding opponents in order to gain possession of the object.

Rules

Section I: Area of Play

Boundaries: 1. The playing area must form either:

   (i) a square
   (ii) a rectangle

   Note: The parameter of the playing area may be of any dimensions provided there is ample room for all groups to participate in a goal game activity.

Zone Mark-   1. A line must divide the playing area into
ings: two equal halves.

   2. An "X" may be marked a reasonable distance in front of each goal for the purpose of taking penalty shots.

Goal Crease: 1. The goals must have a crease in the shape of one of the following:

   (i)   a square
   (ii)   a rectangle
   (iii)   a semi-circle
   (iv)   a circle (positioned so that players can move behind the goal).

   2. The crease may be of any dimension provided both teams are the same and there are at least five feet between the outside line of the crease and the center of the playing area.

   Note: The crease is necessary as a safety precaution to protect the goalkeeper,

therefore, it must be large enough to allow the goalkeeper ample room to guard his goal. If there are no goalkeepers, the crease should still be large enough to ensure that players face a desirable amount of challenge when attempting to score.

Section II: Equipment

Objects: 1.   One of the following must be used as the "manoeuvrable object":

      (i)   a round or oval ball between two and eight inches in diameter
      (ii)   a bean bag
      (iii)   a quoit (consisting of either rubber or felt).

Implements: 1.   One of the following implements may be used by each player:

      (i)   a straight stick (consisting of either wood or plastic)
      (ii)   a curved stick (consisting of either wood or plastic)
      (iii)   a plastic scoop.

Note: The teacher must make sure that the object and implements used in a game are suitable with regard to safety and the playing rules selected.

Goals: 1.   Each team must only have one goal and that goal must be identical to their opponents.

2.   One of the following types of goals are permitted:

      (i)   an outline marked on a wall.
      (ii)   a vertical rectangular, square or circular piece of solid material, for example; a piece of plywood, a bench (or benches).
      (iii)   a vertical rectangular, square or circular device constructed so that an object can pass through its inside area, for example; a floor hockey goal or an indoor soccer goal frame.
      (iv)   two upright stands positioned a distance away from each other and standing on a goal-line, for example; two traffic cones positioned on a straight line.

(v) a horizontal hoop supported on pylons.

3. The goals must lie on or near opposite ends of the playing area.

Section III. Number of Players

1. Each team is limited to one of the following numbers:

(i)   three
(ii)   four
(iii) five
(iv)   six.

Note: The above rule must be kept at all times to ensure that players participate in all changes made to their specific game.

2. Both teams must always have an equal number of participants actively involved in a game, unless a rule is introduced removing a player who commits a foul (a penalty).

Section IV: Time Period

Length of   1. The length of a game may be one of the fol-
Game: lowing:

(i)   five minutes
(ii)   ten minutes
(iii) fifteen minutes.

Notes: The above rule should not be a major concern during the lessons.

Changing   1. A decision must be made regarding whether or
Ends: not the teams will change ends. If a change
                is desired it must occur at one of the fol-
                lowing intervals.

(i)   when half of the time period has ex-
       pired.
(ii)   when five and ten minutes have expired
       (two changes in a 15 minute game)
(iii) after one team has scored two goals
(iv)   after the total number of goals scored
       by both teams is four

Section V: Movement of Object

Object's   1. The object must move in one or any combin-
Behaviour: ation of the following ways:

                   (i)   bounce along the floor
                   (ii)   maintain its motion in the air
                   (iii) slide or roll along the floor.

Player's   1. When the players are not using implements,
Behaviour: one or any combination of the following
                  actions must be used to move the object:

                   (i)   an underhand throw
                   (ii)   an overhand throw.

              Note: Players may use either one or two hands
                     to complete a throw, depending on the
                     size of the object.

                   (iii) a dribbling action with one hand
                          while the player is standing still
                          or moving, also the player will be
                          permitted to switch hands at any time
                          while the object is bouncing
                   (iv)   a kicking action
                   (v)   a dribbling action using the feet
                          while the player is moving.

              Note: Special safety rules are needed if the
                     children are permitted to use both their
                     hands and feet near the floor.

              2. When the players are using implements one
                  of the following actions must be used:

                   (i)   a striking or pushing action
                          (including stickhandling)
                   (ii)   a throwing action, for example;
                          sending the object from a scoop.

Keeping
 Possession: 1. One of the following is permitted when a
                  player is in possession of the object:

                   (i)   only one step before the object must
                          be released.
                   (ii)   only three steps before the object
                          must be released.
                   (iii) to control the object for five sec-
                          onds while moving or remaining sta-
                          tionary before it must be released.
                   (iv)   to control the object for ten seconds
                          while moving or remaining stationary
                          before it must be released.
                   (v)   to run or remain stationary with the
                          object for an indefinite period of
                          time.

              Note: When a player is permitted to keep pos-
                     session of the object for an indefinite

149

period of time, the opposition should be
permitted to use the two handed touch
rule (see rule two concerning "Players
Relation with Opposition").

Player's
Relationship
With Team-
mates:

1. A player is permitted to send the object to
a teammate by using one or any combination
of the following passes:

(i)   a forward pass
(ii)   a backward pass
(iii) a lateral pass.

2. A team must do one of the following before
a goal can be scored:

(i)   complete at least one, two, or
       three passes
(ii)   complete at least one pass in their
       own zone
(iii) complete a pass to every member of
       the team.

Note: A pass to or from a goalkeeper inside
       his crease will not count.

Scoring a
Goal:

1. One of the following must be completed before
scoring a goal:

(i)   the object must strike a horizontal
       target
(ii)   the object must pass over a goal-
       line
(iii) the object must enter a horizontal
       device, for example; a floor hockey
       goal
(iv)   the object must pass through a hoop.

Note: The option chosen from above will depend
       on the type of goal selected.

Player's
Relationship
With Oppo-
sition:

1. A defensive player may attempt to gain pos-
session of the object while, it is being
manoeuvred by an opposing player, passed, or
sent towards a goal.

To gain possession of the object, the defen-
sive player may use one of the following:

(i)   an implement; when that specific
       piece of equipment is permitted in
       a game

(ii)   hand; when dribbling with the hands
       or throwing is permitted

(iii) feet; when dribbling with the feet
       or kicking is permitted.

Note: The above rule does not apply when the
       object is permitted to be carried in a
       player's hands.

2. When an offensive player is permitted to
    carry the object in his hands an additional
    rule may be introduced. This rule states
    that a defensive player may attempt to stop
    the object carrier by simultaneously touch-
    ing him with two hands. When a defensive
    player touches the object carrier, the defen-
    sive player gains possession of the object
    and must pass it to a teammate, while re-
    maining in a stationary position.

    Players on the opposing team must stand at
    least three feet away from the new offensive
    player with the object until it has been
    passed, at which time they may attempt an
    interception.

Note: Any one of the options mentioned for the
       previous rule on "Keeping Possessions"
       may also be used in conjunction with the
       above rule.

Section VI: Position of Players

Before Play   1. One of the following options must be selected
 Begins: regarding where players can position them-
                   selves before play begins:

       (i)   all players with the exception of
               those directly involved in the game
               starting procedure (check Section VII)
               may position themselves anywhere
               within the playing area.
       (ii)   all offensive players must position
               themselves in the other team's half
               of the playing area; all defensive
               players must position themselves in
               their own zones.
       (iii)   all players must position themselves
               in their own zones.

Note: The option selected for this rule must
       relate to where players can go during play.

During Play: 1. One of the following options must be selected
                 regarding where players can go during play:

(i)   all players may go wherever they wish
        within the playing area.
(ii)   all offensive players must stay in
        the other teams half of the playing
        area; all defensive players must stay
        in their own zone.
(iii)   one, two, or three players must stay
        in their own zone, the others may go
        wherever they wish.

Note: Only the goalkeeper is permitted inside
        the goal crease.

Section VII: Starting Play

To Begin   1.   One of the following must be performed in
Game: order to begin a game:

(i)   the object is either tossed or dropped
        between two players from opposing
        teams who are positioned near the
        mid-point of the playing area.

Note: If a ball is used it may also be bounced
        between the players.

(ii)   the object is passed to a teammate
        by a player positioned in the centre
        of the playing area.
(iii)   a player who is positioned out of
        bounds and near the middle portion
        of the playing area passes the object
        to a teammate.
(iv)   a goalkeeper may pass the object to
        a teammate, provided he stands inside
        the goal crease.

Note: The teacher will decide which team will
        begin when option two, three or four is
        selected. Also, an opposing player can
        not touch the object until a pass has
        been completed.

After a   1.   One of the rule options discussed in the
Goal is   first part of this section "To Begin Game",
Scored: will be used immediately after a goal is
                  scored. If option two, three, or four is
                  chosen one of the following will result:

(i)   the team that is scored upon will
        always begin play.
(ii)   the right to begin play will alter-
        nate from one team to the other
        regardless of who scores.

After a Penalty Shot:	1.	If a goal is scored as a result of a penalty shot, one of the rule options discussed in this section regarding, "After a Goal is Scored", must be used to begin play.

2. If no goal is scored on a penalty shot, one of the following must be selected:

(i)   the team who took the penalty shot will always begin play.

(ii)   the right to begin play will alternate from one team to the other regardless of who took the penalty shot.

Note: If penalties are charged to both teams simultaneously rule option one must be selected.

Ball Out of Bounds:

1. If the object goes out of bounds on an end where a goal is located one of the following must occur:

(i)   a goalkeeper must always send the object back into play.

(ii)   a goalkeeper will send the object back into play only when the opposing team is responsible for sending it out. When the defending team is responsible an opposing player will pass the object back to a teammate from the point where it went off.

2. If the object goes out of bounds on a sideline, a player from the team not responsible for losing the object may pass it back into play; the pass must be made from the point where the object went out.

Section VIII: Goalkeeping

1. Teams are not required to use goalkeepers. However, if one team uses a goalkeeper so must the other team.

When Goalkeepers are Not Used:

1. When goalkeepers are not permitted in a game, one of the following must be observed:

(i)   one defending player is permitted inside the goal crease, and that player will not have any special privileges.

(ii)   no player will be permitted inside the goal crease.

When Goal-   1.   When goalkeepers are permitted in a game one
keepers are   of the following must be observed:
Used:
    (i)   the goalkeeper must stay inside the
               goal crease and no other player may
               take his position unless he becomes
               injured.
    (ii)   the goalkeeper may come out and go
               back inside his crease at any time
               to defend the goal, however, no other
               player may go inside the goal crease.

Stopping the 1.   The goalkeeper must stop the object by using
Object: one or any combination of the following meth-
                   ods:
    (i)   blocking or catching the object with
               the hands or arms
    (ii)   blocking or catching the object with
               an implement
    (iii)   blocking the object with the feet
               or legs.

Note: As a safety precaution it will be neces-
        sary for the teacher to make a restriction
        on the height of the goals, or the height
        which the object can reach when it is
        sent towards a goal.

Sending the 1.   The goalkeeper may use one or any combination
Object   of the methods mentioned in section five
Back into   "Players Behaviour", when sending the object
Play: back into play.

Section IX: Penalties

1.   A penalty will be awarded against a team for
     the following fouls or rule infractions:
    (i)   when a player illegally uses a body
               part to move or stop the object.
    (ii)   when a player illegally uses an imple-
               ment to move or stop the object, for
               example; swinging or throwing the
               implement to knock down or move the
               object; or hitting another players
               implement in order to knock the ob-
               ject out of, or away from the imple-
               ment.
    (iii)   when a player raises his stick above
               his waist.
    (iv)   when a player makes body contact with
               an opponent, for example; checking an
               opponent who has possession of the
               object.

(v)   when a team does not make the required
        number of passes before sending the
        object towards the goal.
(vi)   when a player takes too many steps
        while in possession of the object.
(vii)   when a player has possession of the
        object for too many seconds.

Note: Penalty (v), (vi) and (vii) will depend
        on the rules selected from section five
        regarding "Keeping Possession".

**Privilege
for Team
Not Penal-
ized:**

1. In the event of a penalty one of the follow-
    ing must be observed:

    (i)   a player from the team not penalized
            may make a free pass from the area
            where the foul was committed.
    (ii)   a player from the team not penalized
            will attempt to score a goal from a
            designated area (an 'X' marked on the
            floor in front of each goal).
    (iii)   the player responsible for the penalty
            will be sent off the playing area for
            30 seconds.

Note: The teacher should encourage the use of
        option one most of the time, reserving
        numbers two and three for more serious
        rule infractions.

Section X: Points Awarded for Goals

1. All goals scored during a game must be worth
    one of the following point values:

    (i)   one point
    (ii)   two points
    (iii)   three points
    (iv)   four points
    (v)   five points.

2. All goals scored as a result of penalty shots
    during a game must also be worth one of the
    point values indicated by the alternatives
    above.

Note: The points awarded for goals scored during
        play and those scored from a penalty shot
        do not have to be the same.

3. Instead of the team who scores a goal being
    awarded the points, the opposing team will
    receive points when a goal is scored against
    them.

Note: The above rule simply means that the team with the least points will be the winner.

RULE GUIDELINES:

MODIFIED COURT GAME STRUCTURE

General Description

This game structure consists of one or more players involved in striking or throwing an object into a playing area from where it is impossible for opposing players to return.

Rules

Section I: Area of Play

Types of Courts:
1. The playing area may be a divided court which consists of two equal spaces.

2. The playing area may be a shared court where the playing space is shared between the members of two teams.

Boundaries:
1. The playing area may form one of the following:

(i)   a square
(ii)   a rectangle
(iii)   a triangle
(iv)   a circle.

Note: There must be ample room for all groups to participate in a court game activity, and the size of the courts may vary depending on the number of players per team or the skills used.

Service Area:
1. There must be a specific area designated as the area for service. This area may be one of the following:

(i)   an extension of the area of play, and only be used for the service.
(ii)   a portion of the space inside the playing area, which during play (excluding the service) will be considered the same as any other part of the court.

156

Area for
Receiving
Serve:

1. The opposition's service area my be used as
   the required area for receiving a serve in
   either a divided or shared court game.

Note: The above rule does not have to be used
      in a game, however, when it is used the
      receiving area (service area) must be
      inside the court.

2. When an extension of the playing area is
   used as the service area, the object must
   be permitted to enter any portion of the
   opposition's court.

Note: Both the service and receiving area should
      be large enough and close enough to the
      opposition to allow the children a reason-
      able amount of success.

Rebounding
Surface:

1. A rebounding surface may be used in both a
   shared and divided court for deflecting the
   object into the opposition's court.

   On a shared court the rebounding surface
   must be marked on a wall which is directly
   at right angles and above the court. This
   area must be as wide as the shared court
   and may include:

   (i)   all of the surface space from the
          floor up to the ceiling.
   (ii)   a portion of the surface space, be-
          ginning a reasonable distance from
          the floor, for example; two feet,
          and extend to the ceiling.
   (iii) a portion of the surface space be-
          ginning at floor level and extending
          a distance of at least 10 feet.

2. On a divided court, the rebounding surface
   area may form one of the following:

   (i)   a rectangle
   (ii)   a square
   (iii) a circle.

   This rebounding surface must have half of
   its surface area extending above each half
   of the court, for example; the rebounding
   surface may be a rectangle with its lowest
   side 5 feet from the floor and measure 10
   feet long by 5 feet wide.

Note: If bouncing an object off a rebounding
      surface is selected as part of the serv-
      ing procedure; the service area should
      be reasonably close to the rebounding
      plane.

Section II: Equipment

Objects: 1.   One of the following must be used as the
                     playing object:

                     (i)   a round ball between 2 and 6 inches
                            in diameter
                     (ii)   a beanbag
                     (iii) a quoit (consisting of either rubber
                            or felt).

Implements: 1.   One of the following implements may be used
                     by each player:

                     (i)   a wooden paddle of reasonable size
                            and weight
                     (ii)   a plastic scoop.

Partitions: 1.   For a divided court one of the following
                     must be used to separate the two halves of
                     the playing area:

                     (i)   a rope stretched between two posts
                     (ii)   a net stretched between two posts
                     (iii) one or two benches
                     (iv)   lines drawn on the floor.

Section III: Number of Players

                1.   Each team is limited to one of the following
                     numbers of players:

                     (i)   one
                     (ii)   two
                     (iii) three
                     (iv)   four.

                Note: The above rule must be kept at all times
                       to ensure that players participate in
                       all changes made to their specific game.

                2.   Each team must have an equal number of play-
                     ers actively involved in a game.

                Note: In a shared court game a team should not
                       have any more than two players. For the
                       purpose of this guideline, the general
                       term "team" will refer to one player or
                       a group of players who are competing
                       against an opposition.

Section IV: Time Period

Length of   1.   A game will not last for any specific time
a Game: period.

2. A game will continue until one team has ac-
    cumulated one of the following points values:

    (i)   7 points
    (ii)   9 points
    (iii) 11 points
    (iv)   13 points.

Winning   1. A team may be required to win a game by two
 Game by   points rather than one. If a two point
 Two Points: difference is required, the first team to
                     reach the agreed upon final score will have
                     the next serve.

                     One of the following options must be selected
                     regarding the service procedure that will
                     come after the initial serve:

                     (i)   the team that gained the right to
                             serve first, will continue serving
                             until one of the teams has won. If
                             each team has more than one player,
                             the right to serve will switch from
                             one player to the next on the same
                             team; the order of service for the
                             players will be identical to that
                             used previously during the game (see
                             Section VII "Player Rotation").
                     (ii)   the right to serve will rotate to the
                             other team after a player has one
                             turn. The order of service for the
                             players on a team will be identical
                             to that used previously during the
                             games (see Section VII "Player Ro-
                             tation").

Changing   1. To decide on an overall winner teams may
 Ends: play a best two out of three series of games.
                     When this occurs on a divided court teams
                     may do one of the following:

                     (i)   play all games on their half of the
                             court
                     (ii)   change ends after the completion of
                             each game.

Section V: Movement of Object

Object's   1. During a rally the object must move in one
 Behaviour: or any combination of the following ways:

                     (i)   bounce on the floor
                     (ii)   maintain its motion in the air
                     (iii)   deflect off a rebounding surface.

2.   During a service the object must move in one or any combination of the options mentioned in rule one above.

Player's Behaviour:

1. When implements are not required the object may be set into motion by using either one or two hands. When implements are used, they may be held with either one or two hands.

2. When the players are using their hands or implements one of the following actions must be used:

   (i)   a striking action
   (ii)   a throwing action, for example; sending the object from a scoop.

   Note: When the partition dividing the court is low during a divided court game, players should not use a smash to move the object into their opponents playing area.

Keeping Possession:

1. When throwing or catching an object is used in the game:

   (i)   a player is only permitted to take one step while in possession of the object before it must be released.
   (ii)   after catching the object, a player is not permitted to delay the game, therefore, the object must be immediately released.

Player's Relationship With Teammates:

1. When a team is made up of more than one player, one of the following may occur:

   (i)   the object must be returned to the opposition immediately after being received by a player.
   (ii)   the object must be passed to a teammate before it is returned to the opposition.
   (iii) the object may be returned immediately or passed to a teammate before being returned, depending on the game situation.

2. If passing to teammates is permitted, a team is limited to a maximum of one of the following numbers of passes:

   (i)   one pass
   (ii)   two passes.

3. If passing to teammates is permitted a player may be limited to one of the following:

(i)   receiving only one pass
(ii)   receiving two passes.

Team's Relationship with Opposition on Divided Court:

1. On a divided court one of the following must be performed in order to move the object into the opposition's court:

(i)   a player sends the object into the air so that it will enter the other team's court. The object must either:
(a) pass directly over the partition dividing the playing area, or,
(b) rebound into the other team's court from a rebounding surface located above the court.
(ii)   a player bounces the object over the partition (using one bounce on his side) so that it will land in the other team's court.

2. On a divided court the object may move in one of the following ways before it must be received by the opposition:

(i)   remain in the air after being projected
(ii)   bounce once or remain in the air after being projected.

Team's Relationship with Opposition on Shared Court:

1. On a shared court one of the following must be performed in order to move the object to the opposition:

(i)   a player sends the object against a rebounding surface which is located on a wall at one end of the court. During the objects flight to the rebounding surface it must not bounce on the floor.
(ii)   a player sends the object so that it bounces once on the floor before deflecting off the rebounding surface.
(iii) when a rebounding surface is not used, a player must send the object into the air so that it stays within the boundaries of the court.

2. On a shared court the object may move in one of the following ways before it must be received by the opposition:

(i)   remain in the air after being projected
(ii)   bounce once or remain in the air after being projected.

Section VI: Position of Players

Before Play
 Begins:

1. On a shared court the players must position
    themselves in one of the following ways be-
    fore a serve is made:

    (i)   when a game involves a one against
            one situation, one player must occupy
            the service area and his opponent
            may occupy any portion of the court.
            However, the player waiting to re-
            ceive the serve must not interfere
            with the server.
    (ii)   when a game involves a two against
            two situation, one player must occupy
            the service area and his teammate
            must stand on one of the sidelines.
            The two opposing players may occupy
            any portion of the court. However,
            they must not interfere with the
            server.

2. On a divided court the players must position
    themselves in one of the following ways be-
    fore a serve is made:

    (i)   when a game involves a one against
            one situation, the server must occupy
            the service area in his court and the
            server's opponent must occupy either:
            (a) the service receiving area, or
            (b) any portion of his court.
    (ii)   when a game involves a two against
            two or a four against four situation,
            half the players on each team may
            occupy the front portion of their
            court; the other half may occupy the
            back court. One player (the server)
            must stand in the service area.
    (iii)   when a game involves a three against
            three situation, two players may
            occupy the front portion of their
            court and the other player may occupy
            the back court; the server must stand
            in the service area.
    (iv)   the player position's may be the oppo-
            site of option three; one player may
            occupy the front portion of his team's
            court, and the other two may stand
            in the back court; the server must
            stand in the service area.
    (v)   when a game involves more than one
            player per team; players may occupy
            any position they choose with the ex-
            ception of the server, who must stand
            in the service area.

During Play: 1. In a divided court game, all players may go wherever they wish inside their own court in order to play the object.

2. In a shared court game, players may go wherever they wish provided they don't interfere with the opposing player attempting to play the object.

Section VII: Service

1. Play must always begin with a serve, and the serve must be made from a designated service area.

Note: See Section I "Service Area: for more details regarding the boundaries of the service area.

Performing the Serve:

1. To perform a serve, one of the options discussed in rule one or two regarding "Player's Behaviour", Section V, must be selected.

2. When a paddle is used, the object may do one of the following:

(i)   be bounced once on the floor before being struck
(ii) be tossed into the air before being struck.

Note: Rule two regarding "Object's Behaviour", Section V, refers directly to how the object can move during the serve.

Placement of Object During Serve:

1. During the service, the server must attempt to send the object into one of the following:

(i)   anywhere in the opposition's court
(ii) the opposition's service receiving area.

2. On a divided court the serve must be sent to one of the following when specific service and service receiving areas are used:

(i)   always serve to the same area
(ii) serve first from the right service area to the service receiving area diagonally opposite; and then perform the next consecutive serve from the left service area to that service receiving area diagonally opposite.

Note: The players on the receiving team should take turns receiving the serves.

Net Serve on a Divided Court:	1.	One of the following options must be selected regarding what must occur when a player attempts a serve and the object hits the net and not the floor before entering the other team's proper playing area:

       (i)   the serve will not count and it can be taken over again

      (ii)   the serve will be considered legal.

Service Rotation:	1.	One of the following must apply when a game involves two players competing against each other:

       (i)   the service will rotate from one opponent to the other whenever a serve is lost.

      (ii)   the service will rotate after the server attempts two serves in succession regardless of his success on the first serve.

     (iii)   the service will rotate after the server attempts three serves in succession, regardless of his success on the preceding serves.

      (iv)   an entire game will be played with the same server. During the next game the other player will serve.

     2.   One of the following must apply when a game involves two teams with more than one player per team:

       (i)   immediately after a server loses his serve the service will rotate to the other team.

      (ii)   immediately after a server has attempted two serves, regardless of whether they are won or lost, the service will rotate to the other team.

     (iii)   immediately after a server has attempted three serves, regardless of whether they are won or lost, the service will rotate to the other team.

Player Rotation:	1.	When both teams have more than one player and they are on a divided court, one of the following must occur with regard to player rotation:

       (i)   when players are specifically positioned in the back and front portions of their court, they will rotate in a clockwise fashion with one individual becoming the server.

(ii) when the players can occupy any position each player will be assigned a number and one player will move into the service area when it is his turn to serve.

Note: If there are three players on a team each player will be assigned a number from one to three. Player number three will become the server after the number two player has had his turn and his team has the right to serve.

2. On a shared court, since there will only be a maximum of two players per team, the players will simply take turns having the right to serve.

Section VIII: Scoring Points

1. One of the following options must be selected regarding the scoring of points:
   (i) only the serving team will score points when the opposing team wins a rally they gain the right to serve.
   (ii) either team may score on a serve or resulting rally.

2. A team may be awarded a point when one of the following occur:
   (i) when the opposing team sends the object out of bounds.
   (ii) when a player on the opposing team incorrectly serves or rallies the object.
   (iii) when the opposing team makes too many passes before sending the object to their opponents.
   (iv) when a player is hit or strikes the object before it can be played by the other team.
   (v) when a player obstructs the movement of an opposing player towards the object.

Note: The teacher is advised to check the other section of this guideline for more specific details concerning boundaries, service and rallying procedure.

APPENDIX E

GENERAL INFORMATION QUESTIONNAIRES

Chilren's Attitudes Toward the Playing of Games
and Rule Changes

General Information   Waverley Elementary School

Your Identification Number: ....

Boy ☐   Girl ☐

Age: ....:   Birth Date: ....

Please answer <u>all</u> questions: put a <u>check mark</u> in the square
next to the correct answer.

Example: Have you ever owned a dog?

Yes ☑   No ☐

If you answered "Yes" in the above question, please indicate
the colour of the dog.

White ☐   Black ☑   Brown ☐

1.(a) Have you ever played games in any organized sports
       leagues or clubs outside of school?

Yes ☐   No ☐

(b) If you answered "Yes" in the above question, please
     indicate which games you have played?

Ice Hockey		Baseball	
Soccer		Flag Football	
Basketball		Volleyball	
Field Hockey		Other	

(c) If you checked "other" in 1(b) above, please indicate
     which game or games you have also played.

     ....

2.(a) Have you ever participated in any games activities in
       your school's intramural program?

Yes ☐   No ☐

(b) If you answered "Yes" in the above question, please
     indicate which games you have played?

Soccer		Broomball	
Baseball		Shinny	
Badminton		Floor Hockey	
Volleyball		Flag Football	

Children's Attitudes Toward the Playing of Games
and Rule Changes

General Information   Greenfield Elementary School

Your Identification Number: ....

Boy ☐   Girl ☐

Age: ....   Birth Date: ....

Please answer all questions: put a check mark in the square
next to correct answer.

Example: Have you ever owned a dog?

Yes ☑   No ☐

If you answered "Yes" in the above question, please indicate
the colour of the dog.

White ☐   Black ☑   Brown ☐

1.(a) Have you every played games in any organized sports
       leagues or clubs outside of school?

Yes ☐   No ☐

(b) If you answered "Yes" in the above question, please
     indicate which games you have played.

Ice Hockey		Baseball	
Soccer		Flag Football	
Basketball		Volleyball	
Field Hockey		Other	

(c) If you checked "other in 1(b) above, please indicate
     which game or games you have also played.

     ....

2.(a) Have you every participated in any games activities
       in your school's intramural program?
       Yes ☐   No ☐

(b) If you answered "Yes" in the above question, please
     indicate which games you have played.

Soccer		Broomball	
Baseball		Ice Hockey	
Badminton		Floor Hockey	
Volleyball		Waste Paper Ball	

APPENDIX F

PRE AND POSTTREATMENT RAW DATA AND

ADDITIONAL DATA PERTAINING TO THE

CHILDREN'S PREVIOUS GAMES

PLAYING EXPERIENCE

CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES: PRETREATMENT INVENTORY RESPONSES

State-ment	N	Control Class SA (B, G)	Control Class A (B, G)	Control Class D (B, G)	Control Class SD (B, G)	Exp. Class #1 SA (B, G)	Exp. Class #1 A (B, G)	Exp. Class #1 D (B, G)	Exp. Class #1 SD (B, G)	Exp. Class #2 SA (B, G)	Exp. Class #2 A (B, G)	Exp. Class #2 D (B, G)	Exp. Class #2 SD (B, G)
1	N	1, 2	11, 10	0, 1	0, 0	3, 2	13, 11	0, 1	0, 0	7, 2	3, 12	0, 0	0, 0
2	N	1, 2	8, 6	3, 3	0, 2	1, 3	13, 11	2, 0	0, 0	2, 6	8, 8	0, 0	0, 0
3	N	0, 0	0, 0	9, 2	3, 11	0, 0	0, 0	12, 11	4, 3	0, 0	1, 0	6, 10	3, 4
4	N	2, 3	7, 3	3, 5	0, 2	4, 3	10, 10	2, 1	0, 0	0, 0	9, 11	0, 3	1, 0
5	N	0, 2	11, 10	1, 1	0, 0	2, 0	9, 12	4, 2	1, 0	0, 3	10, 11	0, 0	0, 0
6	N	2, 1	5, 5	3, 4	2, 3	0, 0	4, 3	10, 11	2, 0	0, 1	0, 0	10, 10	0, 3
7	N	1, 2	5, 1	6, 7	0, 3	1, 0	4, 3	8, 10	3, 1	0, 0	5, 2	3, 10	2, 2
8	N	6, 2	5, 7	1, 2	0, 2	2, 1	13, 12	1, 1	0, 0	3, 6	7, 8	0, 0	0, 0
9	N	0, 1	0, 0	7, 4	5, 8	0, 0	0, 0	5, 5	11, 9	0, 0	1, 0	2, 8	7, 6
10	N	4, 6	6, 5	2, 0	0, 2	11, 10	5, 4	0, 0	0, 0	6, 11	3, 3	1, 0	0, 0
11	N	2, 3	8, 8	2, 2	0, 0	1, 0	8, 5	7, 9	0, 0	2, 0	2, 5	4, 8	2, 1
12	N	3, 4	8, 5	1, 2	0, 2	4, 2	12, 12	0, 0	0, 0	2, 5	8, 9	0, 0	0, 0

No. of boys in control class = 12
No. of girls in control class = 13

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 10
No. of girls in experimental class #2 = 14

Key:
N = Number of Responses
D = Disagree
G = Girls

SA = Strongly Agree
SD = Strongly Disagree

A = Agree
B = Boys

CHILDREN'S ATTITUDES TOWARD THE PLAYING OF GAMES: POSTTREATMENT INVENTORY RESPONSES

Statement	N	Control Class								Experimental Class #1								Experimental Class #2							
		SA		A		D		SD		SA		A		D		SD		SA		A		D		SD	
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
15	N	4	1	8	11	0	0	0	1	9	3	5	10	2	1	0	0	7	4	3	8	0	2	0	0
10	N	0	1	8	11	4	1	0	0	4	6	12	8	0	0	0	0	4	8	6	5	0	0	0	1
17	N	0	1	1	0	9	6	2	6	0	0	2	0	7	9	7	5	0	0	0	0	5	5	5	9
16	N	3	0	3	7	6	5	0	1	5	4	9	7	1	3	1	0	2	1	7	10	1	3	0	0
18	N	2	1	9	12	1	0	0	0	2	2	12	11	2	1	0	0	1	4	8	9	1	1	0	0
8	N	3	2	5	1	2	8	2	2	0	1	6	3	10	9	0	1	0	0	1	2	4	7	5	5
12	N	1	0	4	1	5	9	2	3	2	0	1	0	12	12	1	2	0	1	5	3	3	7	2	3
30	N	2	3	9	8	0	1	1	1	5	4	11	9	0	1	0	0	4	4	5	8	1	2	0	0
21	N	1	0	0	0	4	2	7	11	0	0	0	0	6	3	10	11	0	0	1	0	2	2	7	12
25	N	6	6	6	7	0	0	0	0	11	11	4	3	0	0	1	0	7	10	3	4	0	0	0	0
9	N	1	0	8	8	2	4	0	1	4	3	8	9	4	2	0	0	2	1	5	10	2	2	1	1
23	N	1	4	11	9	0	0	0	0	6	3	10	11	0	0	0	0	3	3	7	11	0	0	0	0

No. of boys in control class = 12
No. of girls in control class = 13

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 10
No. of girls in experimental class #2 = 14

Key: N = Number of Responses   SA = Strongly Agree   A = Agree
       D = Disagree   SD = Strongly Disagree B = Boys
       G = Girls

Note: The statements in this table are not presented in proper numerical order, however, they do appear in the same chronological order as the statements in the previous table concerning children's attitudes toward the playing of games.

CHILDREN'S ATTITUDES TOWARD THE CHANGING OF GAMES RULES: POSTTREATMENT INVENTORY RESPONSES

Statement	N	Experimental Class #2								Experimental Class #1							
		SA		A		D		SD		SA		A		D		SD	
	N	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
1	N	2	2	9	20	1	3	0	1	0	0	13	10	3	4	0	0
2	N	1	1	4	13	4	1	2	0	3	5	8	4	4	5	1	0
3	N	0	0	1	0	5	13	5	2	0	0	0	1	13	10	3	3
4	N	3	5	7	9	1	1	0	0	3	1	12	12	0	0	1	1
5	N	1	1	0	2	7	7	3	5	0	1	5	3	9	9	2	1
6	N	0	1	7	3	4	11	0	0	0	1	5	4	8	9	3	0
7	N	0	0	6	3	4	7	1	5	0	0	6	2	10	12	0	0
11	N	2	3	8	11	1	1	0	0	4	2	12	12	0	0	0	0
13	N	0	0	7	9	3	5	1	1	1	1	9	5	5	8	1	0
14	N	0	0	1	6	6	5	4	4	0	0	5	4	7	10	4	0
19	N	2	6	7	7	1	2	1	0	2	0	12	13	2	1	0	0
20	N	0	0	1	1	7	11	3	3	0	0	0	1	13	12	3	1
22	N	0	0	3	7	8	6	0	2	2	0	6	6	6	8	2	0
24	N	1	0	1	0	4	9	4	6	0	0	1	0	8	9	7	5
26	N	0	0	3	4	6	7	2	4	4	2	2	2	9	9	1	1
27	N	0	1	7	5	3	8	1	1	0	0	7	4	7	7	2	3
28	N	3	2	7	8	1	5	0	0	2	0	9	12	5	2	0	0
29	N	0	1	8	9	2	5	1	0	0	0	9	7	5	6	2	1
31	N	0	1	1	0	7	7	3	7	0	0	1	1	6	7	9	6
32	N	0	2	9	9	2	4	0	0	0	0	8	7	7	5	1	2

No. of boys in experimental class #1 = 16
No. of girls in experimental class #1 = 14

No. of boys in experimental class #2 = 11
No. of girls in experimental class #2 = 15

Key: N = Number of Responses   SA = Strong Agree
     A = Agree   D = Disagree
    SD = Strongly Disagree   B = Boys
     G = Girls

CHILDREN'S PARTICIPATION IN GAMES ACTIVITIES
WITH ORGANIZED SPORTS LEAGUES OR CLUBS
OUTSIDE OF SCHOOL

| | BOYS | | GIRLS | | TOTAL | |
	#	%	#	%	#	%
Exp. 1 (N=30)	13	81.3	12	85.7	25	83.3
Exp. 2 (N=26)	11	100.0	13	86.7	24	92.3
Cont. (N=25)	10	83.3	7	53.8	17	68.0
Total (N=81)	34	87.2	32	76.2	66	81.5

CHILDREN'S PARTICIPATION IN GAMES ACTIVITIES
IN THEIR SCHOOL'S INTRAMURAL PROGRAM

| | BOYS | | GIRLS | | TOTAL | |
	#	%	#	%	#	%
Exp. 1 (N=30)	14	87.5	11	78.6	25	83.3
Exp. 2 (N=26)	8	72.7	9	60.0	17	65.4
Cont. (N=25)	12	100.0	13	100.0	25	100.0
Total (N=81)	34	87.2	33	78.6	67	82.7

GAMES PLAYED BY EXPERIMENTAL CLASS ONE
IN ORGANIZED SPORTS LEAGUES OR CLUBS
OUTSIDE OF SCHOOL

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Ice Hockey	9	56.3			9	30.0
Soccer	11	68.8	4	28.6	15	50.0
Basketball	4	25.0	3	21.4	7	23.3
Field Hockey	0	0	0	0	0	0
Baseball	8	50.0	9	64.3	17	56.7
Flag Football	5	31.3	2	14.3	7	23.3
Volleyball	3	18.8	3	21.4	6	20.0
Bowling	0	0	2	14.3	2	6.7
Badminton	0	0	2	14.3	2	6.7
Golf	2	12.5	3	21.4	5	16.7
Water Polo	3	18.8	1	7.1	4	13.3
Tennis	3	18.8	3	21.4	6	20.0
Tackle Football	1	6.3	0	0	1	3.3
Lacrosse	2	12.5	0	0	2	6.7
Broomball	1	6.3	0	0	1	3.3
Racketball	1	6.3	0	0	1	3.3

Number of boys in experimental class one = 16
Number of girls in experimental class one= 14

Total = 30

GAMES PLAYED BY EXPERIMENTAL CLASS ONE
IN THEIR SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS #	%	GIRLS #	%	TOTAL #	%
Soccer	10	62.5	5	35.7	15	50.0
Baseball	6	37.5	4	28.6	10	33.3
Badminton	3	18.8	1	7.1	4	13.3
Volleyball	2	12.5	2	14.3	4	13.3
Broomball	2	12.5	2	14.3	4	13.3
Ice Hockey	4	25.0	0	0	4	13.3
Floor Hockey	11	68.8	7	50.0	18	60.0
Waste Paper Ball	9	56.3	6	42.9	15	50.0

Number of boys in experimental class one = 16

Number of girls in experimental class one = 14

                                   Total = 30

GAMES PLAYED BY EXPERIMENTAL CLASS TWO
IN ORGANIZED SPORTS LEAGUES OR CLUBS
OUTSIDE OF SCHOOL

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Ice Hockey	7	63.6	1	6.7	8	30.8
Soccer	9	81.8	9	60.0	18	69.2
Basketball	5	45.4	7	46.7	12	46.2
Field Hockey	0	0	1	6.7	1	3.8
Baseball	7	63.6	12	80.0	19	73.1
Flag Football	3	27.2	2	13.3	5	19.2
Volleyball	0	0	3	20.0	3	11.5
Lacrosse	3	27.2	0	0	3	11.5
Ringette	0	0	2	13.3	2	7.7

Number of boys in experimental class two = 11

Number of girls in experimental class two = 15

Total   = 26

GAMES PLAYED BY EXPERIMENTAL CLASS TWO
IN THEIR SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS #	%	GIRLS #	%	TOTAL #	%
Soccer	4	36.4	2	13.3	6	23.1
Baseball	2	18.2	4	26.7	6	23.1
Badminton	1	9.1	2	13.3	3	11.5
Volleyball	2	18.2	2	13.3	4	15.4
Broomball	3	27.3	0	0	3	11.5
Ice Hockey	2	18.2	0	0	2	7.7
Floor Hockey	7	63.6	2	13.3	9	34.6
Waste Paper Ball	5	45.5	3	20.0	8	30.8

Number of boys in experimental class two = 11

Number of girls in experimental class two = 15

Total = 26

GAMES PLAYED BY CONTROL CLASS IN ORGANIZED
SPORTS LEAGUES OR CLUBS OUTSIDE OF SCHOOL

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Ice Hockey	5	41.7	0	0	5	20.0
Soccer	6	50.0	0	0	6	24.0
Basketball	1	8.3	0	0	1	4.0
Field Hockey	0	0	0	0	0	0
Baseball	7	58.3	7	53.8	14	56.0
Flag Football	1	8.3	0	0	1	4.0
Volleyball	1	8.3	0	0	1	4.0
Bowling	2	16.7	2	15.3	4	16.0
Badminton	3	25.0	1	7.7	4	16.0
Golf	2	16.7	0	0	2	8.0

Number of boys in control class = 12

Number of girls in control class = 13

Total = 25

GAMES PLAYED BY CONTROL CLASS IN THEIR
SCHOOL'S INTRAMURAL PROGRAM

GAMES	BOYS		GIRLS		TOTAL	
	#	%	#	%	#	%
Soccer	12	100.0	11	84.6	23	92.0
Baseball	10	83.3	7	53.8	17	68.0
Badminton	1	8.3	0	0	1	4.0
Volleyball	1	8.3	0	0	1	4.0
Broomball	9	75.0	5	38.5	14	56.0
Shinny	7	58.3	6	46.2	13	52.0
Floor Hockey	6	50.0	7	53.8	13	52.0
Flag Football	7	58.3	4	30.8	11	44.0

Number of boys in control class = 12

Number of girls in control class = 13

Total = 25